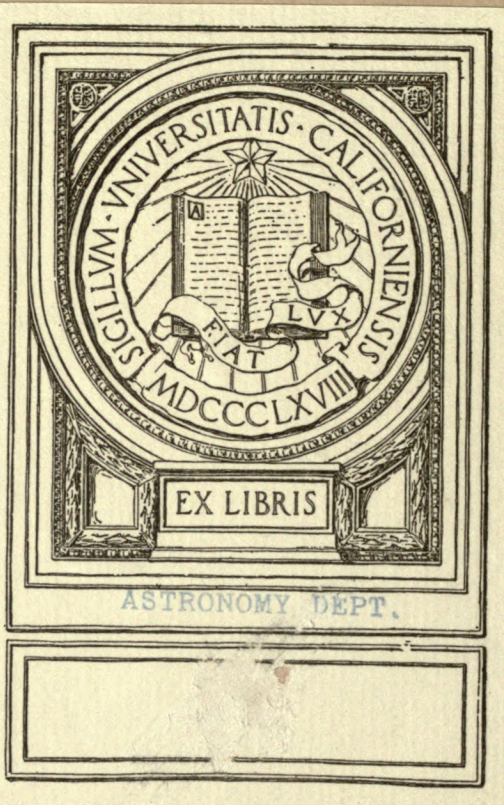


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OXFORD ASTROGRAPHIC CATALOGUE.

VOL. VIII. PART I.

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CORRECTIONS

TO THE PLACES OF THE

CAMBRIDGE (AST. GESELL.) CATALOGUE

DEDUCED FROM

OXFORD PHOTOGRAPHIC MEASURES

TOGETHER WITH A DISCUSSION OF THE

CAMBRIDGE MAGNITUDE EQUATION  
AND ITS VARIATIONS

UNDER THE DIRECTION OF

HERBERT HALL TURNER, M.A., D.Sc., D.C.L., F.R.S.,

SAVILIAN PROFESSOR OF ASTRONOMY.



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UNIV. OF  
CALIFORNIA

OXFORD ASTROGRAPHIC CATALOGUE.

VOL. VIII. PART I.

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# CORRECTIONS

TO THE PLACES OF THE

CAMBRIDGE (AST. GESELL.) CATALOGUE

DEDUCED FROM

PHOTOGRAPHIC MEASURES

ON THE PLATES OF THE

OXFORD SECTION

OF THE

ASTROGRAPHIC CATALOGUE.



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Astron. Dept.

ASTRONOMY DEPT.



# CORRECTIONS TO THE PLACES OF THE CAMBRIDGE CATALOGUE.

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## INTRODUCTION.

At the head of the measures of each plate in the Oxford Catalogue are given six constants, A, B, C, D, E, F, for use in converting the measures ( $x, y$ ) into standard co-ordinates ( $\xi, \eta$ ) by linear formulæ. These were derived from comparison of  $\xi$  and  $\eta$  for the stars of the Cambridge, Berlin, and Leiden Catalogues with the corresponding measures. Applying the formulæ to the measures for these stars we get individual residuals  $\Delta\xi, \Delta\eta$ , which were entered in ledgers. Since each star usually\* occurs on at least two plates, the accordance of these residuals  $\Delta\xi$  and  $\Delta\eta$  for the same star on different plates is a valuable check on the accuracy of the work, and in special cases, where there is a considerable interval between the plates, also gives evidence of proper motion.

Cases of sensible proper motion are, however, rare. It is usual to find a good accordance among the residuals, even when the dates vary. The following may be taken as samples of the ledgers in parts of the sky where the stars are scarce ( $12^h$ ) and where they are numerous ( $18^h$ ). They are simply the first page and the last page of the volume containing Nos. 3001–6000.

The headings of the columns are almost enough explanation of them. The Cambridge places were brought up from 1875.0 to 1900.0 by application of the precessions and secular variations given in the Catalogue, *using no proper motions* (though cases of large proper motion were treated specially for use in the equations for deriving constants). The single figures given below these are the means of the individual values of  $\Delta\xi$  and  $\Delta\eta$ , which in the MS. ledgers have been entered in red ink in this convenient space. These means form the body of the Catalogue now to be given.

The chief point of interest at present is the general accordance of the residuals among themselves, and it will make several things quickly intelligible if we select for comment the star 6005, which shows quite exceptional discordances in  $\Delta\eta$ , especially in the two plates 1772 and 1773. From the last column (of dates), or even from the consecutive plate numbers, we can see that there is here no question of proper motion.

\* The exceptions are, of course, in the extreme zones, which overlap the plates of other observatories.



The magnitude of the difference between  $+007$  and  $-003$  suggests a mistake of  $010$  in one result or the other; and in such cases it is the rule to examine the

## UNIVERSITY OBSERVATORY, OXFORD.

*Corrections to Cambridge Zone Catalogue from Photographic Measures.*

Cambridge.				Oxford.						
Number.	Mag.	R. A. 1900·0.	N. Dec. 1900·0.	Corrections.		Plate number.	Plate Centre.		Date of Exposure.	
				$\Delta\alpha$ .	$\Delta\eta$ .		R. A.	Dec.		
6001	7·0	<sup>h</sup> <sup>m</sup> <sup>s</sup> 12 3 31·19	<sup>°</sup> <sup>'</sup> <sup>"</sup> 27 3 4·4	+	007	000	359	<sup>h</sup> <sup>m</sup> <sup>s</sup> 12 0 26	1893·282	
				+	008	- 002	1551	12 8 26	1900·312	
		+ 9	- 1	+	009	- 001	1508	12 4 27	1900·044	
				+	008	- 002	1772	12 0 28	1901·246	
				+	012	000	2653	12 0 26	1908·246	
6002	9·5	12 3 48·63	26 30 46·7	-	005	+ 001	359	12 0 26	1893·282	
				-	002	- 001	1551	12 8 26	1900·312	
		- 4	+ 2	-	002	+ 004	1508	12 4 27	1900·044	
				-	006	+ 004	2653	12 0 26	1908·246	
6003	8·9	12 3 51·29	25 15 28·0	-	004	+ 006	359	12 0 26	1893·282	
					000	- 001	385	12 4 25	1893·340	
		0	+ 2	+	004	000	1551	12 8 26	1900·312	
				-	001	+ 004	2653	12 0 26	1908·246	
					000	000	2771	12 4 25	1909·282	
6004	9·5	12 4 17·36	26 30 27·1		000	- 001	359	12 0 26	1893·282	
				-	003	- 003	1551	12 8 26	1900·312	
		- 2	- 2		000	- 004	1508	12 4 27	1900·044	
				-	004	- 002	2653	12 0 26	1908·246	
6005	8·8	12 4 22·59	28 45 43·3	+	005	000	1014	12 4 29	1896·326	
				-	001	+ 007	1772	12 0 28	1901·246	
		+ 2	+ 1	+	001	- 003	1773	12 9 28	1901·246	
6006	9·4	12 4 33·52	24 49 26·7	-	011	+ 002	385	12 4 25	1893·340	
		- 10	+ 2	-	010	+ 001	2771	12 4 25	1909·282	
6007	8·9	12 4 45·92	29 29 5·8	-	003	+ 001	1014	12 4 29	1896·326	
				-	002	- 003	1943	12 9 30	1902·359	
		- 2	0		000	+ 001	1942	12 0 30	1902·359	
6008	9·4	12 4 51·67	29 27 22·7	-	003	+ 002	1014	12 4 29	1896·326	
				-	007	+ 001	1943	12 9 30	1902·359	
		- 4	+ 2	-	002	+ 002	1942	12 0 30	1902·359	
6009	8·9	12 4 56·72	27 36 12·5	-	002	+ 001	1508	12 4 27	1900·044	
				-	008	- 002	1773	12 9 28	1901·246	
6010	8·5	12 5 1·14	24 49 1·4	+	006	000	385	12 4 25	1893·340	
		+ 6	+ 2	+	005	+ 004	2771	12 4 25	1909·282	

computations again. In the present case they were found "ticked" in black, blue, and red pencil, showing that besides the original regular checking they have been



re-examined twice. Next, we must examine the measures. On turning to these we find that the "direct" and "reversed" measures are as follows:—

Plate 1772.

Direct 21'984  
 Reversed 21'984  
 Remeasure 21'984 "good image"

Plate 1773.

22'100  
 22'103  
 22'102 (elongated).

## UNIVERSITY OBSERVATORY, OXFORD.

*Corrections to Cambridge Zone Catalogue from Photographic Measures.*

Cambridge.				Oxford.						
Number.	Mag.	R.A. 1900'0.	N. Dec. 1900'0.	Corrections.		Plate number.	Plate Centre.		Date of Exposure.	
				$\Delta\xi$ .	$\Delta\eta$ .		R.A.	Dec.		
8991	9'2	<sup>h</sup> <sup>m</sup> <sup>s</sup> 18 27 7'37	<sup>°</sup> <sup>'</sup> <sup>"</sup> 25 11 34'6	— 006	+ 003	122	<sup>h</sup> <sup>m</sup> 18 24	<sup>°</sup> 26	1892'613	
				— 007	+ 002	1199	18 28	25	1898'608	
		— 6	+ 2	— 005	000	1085	18 24	26	1897'564	
8992	9'2	18 27 11'68	25 39 2'5	+ 001	+ 001	122	18 24	26	1892'613	
				000	+ 002	1199	18 28	25	1898'608	
		0	+ 1	000	000	1085	18 24	26	1897'564	
				000	+ 001	2575	18 32	26	1907'539	
8993	7'5	18 27 9'77	28 25 28'6	+ 008	+ 001	803	18 31	29	1895'485	
		+ 6	+ 1	+ 004	+ 002	1824	18 27	28	1901'542	
8994	9'5	18 27 16'54	29 22 57'3	+ 001	— 001	803	18 31	29	1895'485	
		+ 2	— 2	+ 002	— 002	1595	18 27	30	1900'701	
8995	18'7	18 27 21'02	27 46 5'5	+ 006	+ 002	1100	18 28	27	1897'586	
		+ 4	+ 2	+ 002	+ 001	1824	18 27	28	1901'542	
8996	8'5	18 27 27'66	24 58 45'9	— 004	— 001	122	18 24	26	1892'613	
				— 005	— 002	1199	18 28	25	1898'608	
		— 4	— 2	— 004	— 002	1085	18 24	26	1897'564	
				— 003	— 002	2575	18 32	26	1907'539	
8997	9'2	18 27 29'42	24 52 26'1	+ 001	— 002	1199	18 28	25	1898'608	
		+ 1	— 2							
8998	9'5	18 27 34'72	28 12 17'0	— 014	— 008	803	18 31	29	1895'485	
		— 15	— 6	— 016	— 004	1824	18 27	28	1901'542	
8999	9'1	18 27 34'64	29 43 32'4	+ 001	+ 005	803	18 31	29	1895'485	
		+ 3	+ 4	+ 004	+ 003	1595	18 27	30	1900'701	
9000	8'8	18 27 42'41	25 4 32'6	+ 003	— 003	122	18 24	26	1892'613	
				+ 002	— 002	1199	18 28	25	1898'608	
		+ 3	— 3	+ 004	— 004	1085	18 24	26	1897'564	
				+ 004	— 004	2575	18 32	26	1907'539	



The star is near a corner of both plates, but the images are not poor. They are naturally elongated, but so are many other images which do not yield such excessive discordances. Scrutiny shows that the measures cannot be altered more than a unit: we might possibly explain 2 units of the 10 in question in this way (one for each image), but not more.

There remain the plate constants, which are known to be approximate only. On careful comparison of the residuals of plate 1773 with those of neighbouring plates it appears that a small positive correction is suggested, which might be as much as +·002. Further, the adopted scale value of plate 1772 in  $y$  requires correction, as is suggested by the difference between the printed constants

$$A = -·00025, \quad E = -·00075;$$

and on similar comparison of the residuals with those of neighbouring plates, we find that the correction should be about +·00030. If we leave the centre undisturbed this implies a correction to the  $y$  co-ordinate of the star 6005 of -·003. Hence the discordance of ·010 between plates 1772 and 1773 is probably made up as follows:—

Possible increase of measure on plate 1773	= ·001
Possible decrease of measure on plate 1772	= ·001
Alteration of F constant of plate 1773	= ·002
Alteration of E constant of plate 1772	= ·003
Other unexplained sources of error	= ·003
	<hr/>
Total	·010

In other words, this is probably an extreme case of the accumulation of small errors. Such cases are very rare, and it is to be regarded as accidental that one such case should have presented itself on these two pages.

The question now arises, What are the *general* lessons to be learnt from these extreme cases? There is no difficulty in repeating such a scrutiny in similar cases, except that of the expenditure of time, which, however, cannot be treated lightly. Probably several hours in all have been spent over this particular star, because it seemed as though there *must* be a mistake somewhere. Now that it seems pretty clear that it is really a case of accumulation of errors, can we afford to be more economical of time in other similar cases? The following conclusions seem to be suggested:—

If we adopt the corrections above found to plate 1772, its residual becomes +·007 -·001 -·003 = +·003, and if we adopt the corrections found for 1772, its residual becomes -·003 +·001 +·002 = ·000. The corrected residuals for the three plates are then

$$\begin{array}{rcl} 1014 & \cdot000 & \\ 1772 & \cdot000 & \\ 1773 & +\cdot003 & \end{array} \left. \vphantom{\begin{array}{r} 1014 \\ 1772 \\ 1773 \end{array}} \right\} \text{Mean} + \cdot001.$$

Now this mean is just what was found by taking the uncorrected measures as they stood. Hence

(1) *Available processes of correction, though they may improve the accordance, will not much affect the means.*

By “available processes of correction” are meant such processes as can be used without new information as to the errors of the Cambridge places. There is no



doubt that the Oxford measures give us the means of improving the plate constants, by eliminating the grosser errors, for instance, or by comparing one plate with neighbouring plates. Such processes were considered in (*Mon. Not. R.A.S.*, lxvii. p. 108, Dec. 1906), and much work has been done in the earlier hours of R.A. in correcting the constants by empirical methods. But the general result was as above—though the accordance was improved, the means were not much altered, and it was therefore felt that further work of the kind would be unprofitable *for the improvement of these means*. (The question of the constants themselves will be considered in a moment.) In other words, after making reasonably sure that cases of large discordance were not due to *mistakes*, but to *accumulations of small errors*, we may take the mean even between residuals differing by so much as 0.10, without troubling to analyse the accumulations into their constituents. The saving clause is that in cases of extreme difference the errors are probably in opposite directions.

It may be asked whether some system of weighting the residuals, so as to give the images near the centre of the plate more weight, should not be introduced. The answer is that the gain under present conditions would not be worth the labour involved and the danger of mistakes.

Hence it follows naturally that it is desirable to

(2) *Print the simple means of the residuals as the best available corrections at date to the Cambridge places.*

A third gratifying conclusion which cannot be based on the slender foundation of the above single instance, but is supported by wide experience of similar cases, is that

(3) *The measures are as a rule trustworthy.*

In the course of much examination and re-examination of anomalous cases, it is the exception to find a measure requiring serious correction. As a rule the anomalies arise from defective constants of the plates, and these from the errors of the meridian places, combined with the irregular distribution of the reference stars. Now it is important to get an approximate idea of the causes of these errors, and especially whether they are chiefly due to *proper motions* in the interval between the Cambridge observations and the Oxford plates, for, if so, then the sources of error can be removed by repeating the meridian observations at a subsequent epoch, deducing the proper motions, and correcting the constants accordingly. This is the view which has been rather hastily adopted and has led to proposals for the “re-observation of the reference stars” by meridian instruments, in much the same way as before, except that a better system of fundamental stars will no doubt be used, which does not really affect the main point. The main point is that the source of error is *not* proper motion, but the inherent difficulty of observing faint stars visually. Most of the Cambridge stars are of magnitude 9.0 or fainter, and the proper motions of such in a dozen years are very small. On the other hand, the errors of observation of faint stars are large, as may be seen from the discussion of the Cambridge magnitude equation which will form part of this volume. It is perhaps sufficient evidence in itself that the errors of the Cambridge places are chiefly of accidental origin that they steadily *increase* as the stars grow *fainter*. Had they been chiefly



due to proper motion, they would *diminish*, owing to the fact that the proper motions of faint stars are smaller than those of bright stars on the average. Since the differences Oxford—Cambridge *increase* for fainter stars, they must be set down to the difficulties of visual meridian observation, which are obviously greater for faint stars. For such reasons, of which this brief review gives only the merest outline, we conclude that

(4) *The chief sources of discordance are inaccurate constants of the plates due to the imperfections of the meridian observations used, and the irregular distribution of the reference stars.*

(5) *These imperfections are not due to proper motion, but to errors in the observations at date of making, due to the difficulty of observing faint stars.*

(6) *It is therefore unprofitable to repeat these observations under similar conditions at a subsequent date. Better observations are required.*

(7) *The obvious method of securing better observations is to make them photographically, when the difficulties of observing faint stars disappear.*

The detailed arguments in support of these conclusions, especially the last, cannot be given here; but reference may be made to *Mon. Not. R.A.S.*, lxxi. p. 416, and lxxii. p. 91.

Sufficient has, however, been said to explain the publication of these corrections to the Cambridge places in the form given below, as the best that can be done at present. To improve these substantially we must have better constants than visual meridian observations (unless an inordinate amount of labour be expended on them) will give; and the attempt to obtain such places photographically is being already made at this Observatory, with encouraging results.

H. H. TURNER.

UNIVERSITY OBSERVATORY, OXFORD,  
1912, October 5.



## EXPLANATION OF THE PRINTED COLUMNS.

The *first* column gives the number of reference in the *Catalog der Astronomischen Gesellschaft, Cambridge, Zone +25° bis +30°*; Leipzig 1897. No general use has been made, in the body of the following lists, of the Revision of the Cambridge Catalogue made in recent years and kindly communicated to us in MS. There are, however, some references to this Revision in the Notes. The Oxford numbers (of which there are at least two corresponding to any one star, and sometimes three, four or five) are not given for reasons indicated in the above Introduction. The symbol † following the number in this column indicates that a note on the star (referring to proper motion, or to doubt about the Cambridge observations, etc.) is in the section of notes at the end.

The *second* column gives the visual magnitude simply transcribed from the above Catalogue. It has been used in discussing the Cambridge magnitude equation, and is required if it is desired to correct the residuals  $\Delta\xi$  and  $\Delta\eta$  for the magnitude equation.

The *third* column contains the mean epoch of the Cambridge observations less 1800·0, similarly transcribed from the above Catalogue, except that in the case of the fundamental stars the letters Fund. have been inserted. (In the Cambridge Catalogue this column is simply left blank in such cases, and the fundamental character of the star indicated elsewhere). This mean epoch is required for two purposes. Firstly, if it is desired to correct the residuals  $\Delta\xi$  and  $\Delta\eta$  for magnitude equation, then, since it has been shown that there was an abrupt change in this magnitude equation about 1879 (see *Mon. Not. R.A.S.*, lxxii., p. 104, and also later in this volume), the date is a necessary part of the information required. But it is not always sufficient, since a star may have been observed on both sides of the discontinuity: and when greater accuracy is required, reference should be made to the Cambridge Catalogue itself for the dates of the separate zones in which the star was observed.

The *fourth* column contains the mean epoch (less 1800·0 or 1900·0 as the case may be) of the Oxford plates, the number of which is given in the next column. The epoch of exposure of each plate is entered in the MS. ledgers to ·001 of a year, but for the present purpose this is an unnecessary refinement. In taking the means regard was paid to the second decimal, and the printed mean epoch is correct to 0·1. In cases of rapid proper motion fuller details will be found in the notes.

The *fifth* column shows the number of plates. The normal number is two, since the sky is covered twice. But there are overlaps, so that a star near the centre of one plate may be on the corners of four others, making five in all. In addition, many plates taken in the earlier years did not contain sufficient *faint* stars, and new plates were taken (and measured) later. But the deficiency did not, of course, extend to the brighter stars which are here under consideration, and the early measures, though not printed in our published volumes, were entered in the MS. ledgers and are included in the means here tabulated. Hence the total number of plates on which any star appears may even exceed five,—it may rise to nine or ten.

The *sixth* and *seventh* columns give the corrections to the Cambridge observed place at the mean epoch of the plates. They are expressed in units of 0·001 of a reseau



interval which is equivalent to  $0''.3$  at the centre of the plate (and a little more at the edges). An appearance of greater accuracy might have been given by proceeding to one more decimal place in these means; but all our experience suggests that it would have been appearance only: and throughout the work it has been our practice to avoid superfluous figures.

$\Delta\xi$  and  $\Delta\eta$  may be regarded either as corrections to the Cambridge R.A. and Decl., or as corrections to the standard co-ordinates for 1900·0, deduced from these and printed at the end of the Oxford Volumes. They are made up of:—

(1) Reversed accidental errors of the Cambridge places.

(2) Reversed systematic errors of the Cambridge places, especially magnitude equation.

(3) Proper motions for the interval between the epochs printed in columns 3 and 4.

(4) Direct errors of the Oxford places.

In this statement (1) and (2) are separated because (2) has been definitely investigated later in this volume and can be eliminated, at any rate approximately.

*It is particularly to be noticed that these corrections are referred to the mean of the stars observed, magnitude near 9·0. To refer them to stars of about magnitude 6·0 we must add about  $-3$  and  $+1$  to  $\Delta\xi$  and  $\Delta\eta$  respectively. More accurate values of these quantities will be found in the discussion of the Cambridge magnitude equation which follows.*



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
1	9.1	84.6	96.3	2	- 2	0	61	8.6	78.4	98.1	4	- 2	+ 3	121	8.0	75.5	00.4	4	+ 8	- 4
2	9.2	87.9	95.9	2	- 6	+ 2	62	6.6	81.1	99.3	4	+ 5	- 3	122†	7.0	79.9	96.8	2	0	- 2
3†	7.5	77.9	95.3	2	+ 19	- 8	63	9.0	75.8	99.3	4	+ 3	0	123	8.5	75.6	00.5	3	0	- 1
4	7.3	81.9	95.9	2	- 2	0	64	9.5	81.9	99.3	4	- 9	0	124†	9.1	81.5	96.8	2	- 1	+ 2
5	8.9	83.9	95.3	2	+ 1	0	65	9.4	85.3	99.3	4	+ 9	+ 1	125†	9.5	88.0	96.8	2	- 32	- 1
6	8.5	74.4	95.8	2	- 2	+ 4	66	9.5	73.9	99.9	6	- 4	+ 3	126	9.5	86.5	96.8	2	- 6	0
7	9.0	79.9	95.3	2	- 2	- 2	67	9.0	85.9	98.1	4	- 2	+ 5	127	9.5	74.5	00.4	4	+ 1	+ 2
8	9.0	83.0	95.3	2	- 2	+ 4	68	9.5	73.8	98.5	6	+ 2	- 3	128	9.5	79.6	00.4	4	- 4	+ 3
9†	9.5	96.8	94.3	2	+ 31	+ 2	69	9.0	75.0	98.6	4	0	0	129	9.5	85.9	00.5	3	- 8	+ 2
10†	9.5	88.8	94.3	2	- 12	- 1	70	8.4	80.9	99.7	3	+ 3	0	130	9.2	85.9	96.8	2	- 4	- 4
11	8.7	84.9	95.5	3	+ 3	0	71	9.5	81.9	99.3	4	- 2	+ 3	131	7.4	75.6	96.8	2	+ 6	0
12†	7.2	79.9	94.3	2	+ 11	- 3	72	9.2	86.9	00.1	3	- 9	+ 2	132	9.5	81.9	00.5	3	- 8	0
13	8.8	83.8	95.3	2	- 8	+ 4	73†	7.4	80.9	99.7	3	+ 10	- 3	133	9.5	80.0	97.9	3	+ 3	+ 1
14	9.4	81.9	94.3	2	- 1	+ 2	74	9.3	87.4	97.9	2	- 2	+ 2	134	9.2	75.5	01.9	3	- 3	0
15	7.6	79.4	95.8	2	+ 4	- 2	75†	8.9	76.4	99.7	3	+ 10	0	135	9.3	84.3	97.9	2	- 2	- 2
16	9.5	73.9	95.9	2	- 4	+ 4	76†	9.0	74.4	99.5	3	+ 12	+ 2	136	9.3	87.2	02.9	2	- 9	+ 1
17	8.8	84.5	95.8	2	- 1	0	77	9.1	89.9	99.8	4	- 6	+ 2	137†	9.5	81.9	00.5	3	- 11	+ 4
18	8.5	78.1	95.8	2	- 1	0	78†	9.0	76.6	99.8	4	- 5	- 2	138†	9.5	81.9	00.5	3	+ 1	+ 1
19†	2.0	Fund.	95.3	2	+ 10	- 10	79	6.6	74.4	00.1	3	+ 4	0	139	9.2	79.9	97.9	2	- 3	- 2
20	8.8	80.8	95.8	2	- 2	+ 1	80†	8.5	74.6	99.8	4	+ 12	+ 6	140	9.0	75.3	01.9	3	+ 3	- 2
21	9.5	81.9	98.1	4	- 1	+ 4	81	9.0	76.9	99.5	3	+ 2	- 1	141†	9.0	88.0	01.9	3	- 10	+ 2
22	8.2	78.9	95.3	2	- 2	+ 1	82†	9.5	81.9	00.5	3	- 20	+ 1	142	6.5	74.7	02.9	2	+ 6	+ 4
23	9.3	90.8	98.1	4	0	- 3	83	8.7	87.3	00.3	4	+ 7	- 2	143	9.1	79.9	97.9	2	0	- 2
24	7.0	81.5	95.9	2	+ 6	+ 2	84†	8.0	74.8	99.6	4	+ 10	- 8	144	9.5	72.9	01.2	4	+ 3	- 3
25†	8.8	81.1	98.1	4	- 3	- 3	85†	9.4	84.9	00.5	3	+ 6	0	145	7.9	90.3	02.9	2	+ 4	+ 7
26	8.5	79.2	99.0	4	+ 1	0	86†	9.3	82.9	00.5	3	- 8	+ 1	146	8.0	76.0	96.4	5	+ 9	+ 2
27	9.2	74.0	95.8	2	+ 2	+ 2	87†	9.5	81.9	99.4	4	- 16	0	147	9.3	81.5	97.1	4	- 4	+ 3
28†	9.0	89.9	97.9	2	- 10	0	88	9.2	85.0	99.7	3	- 2	+ 5	148	8.9	78.2	01.9	3	+ 3	- 7
29	7.9	75.7	97.2	3	0	0	89	9.5	81.9	00.5	3	- 7	+ 2	149	9.0	75.7	01.9	3	+ 3	- 3
30	9.3	81.9	97.4	2	- 8	+ 4	90	9.3	85.9	99.5	3	- 3	+ 2	150	9.2	79.2	01.9	3	+ 1	+ 5
31	9.0	75.5	99.3	2	- 5	+ 4	91	9.0	74.9	00.3	4	- 5	0	151	8.9	81.1	96.8	4	+ 1	+ 1
32	7.9	76.8	99.3	2	- 1	+ 2	92	9.3	76.9	00.5	3	+ 3	+ 3	152	9.3	82.4	02.9	2	0	+ 4
33	9.0	78.2	95.8	2	- 2	- 3	93†	9.2	87.3	99.7	3	- 3	- 2	153	8.8	87.5	00.5	3	+ 1	- 4
34	9.3	81.9	97.3	2	0	+ 4	94	9.0	73.8	99.6	4	+ 2	0	154	9.3	77.8	97.2	5	+ 2	+ 1
35	8.6	77.4	96.8	3	- 2	+ 1	95†	8.7	73.8	00.3	4	+ 18	+ 3	155	9.0	84.9	96.4	3	- 3	0
36	9.3	73.9	98.8	3	- 2	+ 2	96	9.0	75.7	99.7	3	0	+ 3	156	8.8	75.4	96.4	3	+ 1	0
37†	8.5	75.4	95.8	2	+ 18	- 1	97	9.1	86.7	97.9	2	- 6	+ 1	157	8.4	77.2	97.1	4	+ 8	- 4
38	9.1	83.9	97.3	2	+ 1	0	98	9.0	74.2	99.5	3	- 6	- 3	158	8.1	78.5	97.1	4	0	+ 1
39	9.0	75.0	00.1	3	- 1	+ 2	99	9.2	87.2	99.6	4	- 2	- 2	159	9.4	75.5	97.1	4	+ 2	+ 1
40	8.9	78.8	96.8	3	+ 4	+ 3	100	9.0	79.3	99.5	3	- 1	+ 2	160	8.1	80.7	96.8	4	+ 1	- 1
41†	9.1	86.9	95.8	2	- 1	- 2	101	8.9	76.1	99.7	3	0	- 5	161	9.0	76.4	97.1	4	+ 3	- 1
42†	9.1	86.9	95.8	2	- 1	- 2	102	8.5	79.9	00.5	3	+ 7	+ 1	162	9.5	72.9	00.5	3	+ 4	+ 3
43	8.5	87.2	97.9	2	0	0	103	9.4	81.9	00.5	3	+ 4	0	163	9.5	83.4	02.9	2	- 4	+ 1
44	8.0	74.1	99.8	4	0	- 1	104†	9.5	84.9	00.5	3	- 11	- 1	164	8.2	80.1	97.1	4	+ 4	- 2
45	8.0	75.4	00.1	3	+ 8	0	105	9.4	82.2	00.5	3	0	+ 1	165	8.6	78.7	97.1	4	+ 1	+ 1
46	7.6	81.9	97.9	2	0	+ 3	106	9.5	74.6	99.4	5	- 3	0	166	9.5	74.6	02.8	4	- 5	0
47†	8.5	76.9	00.1	3	+ 22	- 3	107	9.2	76.4	00.5	3	+ 1	+ 1	167	9.5	75.8	97.1	4	- 3	- 1
48	7.3	77.4	97.1	3	+ 2	- 7	108†	9.0	75.4	99.5	3	- 10	- 3	168	8.3	80.1	96.8	4	+ 5	0
49	9.0	79.4	95.8	2	- 3	+ 1	109	8.9	85.2	97.9	2	0	0	169†	8.7	78.9	96.8	2	+ 8	+ 4
50	9.0	77.4	97.3	2	+ 1	0	110	9.3	84.9	97.9	2	+ 8	0	170	9.1	75.1	02.8	5	+ 5	- 1
51	9.0	73.8	95.8	2	+ 1	- 4	111	9.1	83.7	99.5	4	- 4	- 1	171	9.3	84.6	96.8	2	- 6	- 2
52	8.8	78.1	96.8	3	+ 2	+ 1	112	9.3	85.9	99.3	4	- 6	+ 4	172	8.6	76.5	97.2	3	+ 1	- 4
53	9.0	81.9	97.3	2	+ 1	0	113	8.5	77.1	99.5	3	+ 5	- 4	173†	7.3	76.4	01.5	5	+ 11	- 2
54	8.8	75.2	97.5	3	+ 3	0	114	9.2	79.0	98.8	5	+ 1	+ 2	174†	9.5	81.9	02.9	3	- 13	+ 5
55	8.6	74.2	99.3	4	- 2	- 2	115	9.0	75.2	98.8	5	+ 1	+ 3	175	9.1	86.9	96.8	2	- 8	0
56	8.8	78.3	97.3	2	+ 4	- 1	116	9.2	74.9	96.8	3	- 5	- 3	176	9.0	76.4	96.8	2	+ 1	+ 1
57	9.5	73.9	98.1	4	- 7	- 4	117	9.4	78.1	97.9	2	- 4	- 1	177	9.0	76.1	01.5	5	- 2	0
58†	9.5	84.9	97.3	4	- 20	+ 3	118	9.0	74.6	00.9	5	+ 1	- 1	178†	9.5	73.8	97.4	4	- 4	+ 12
59	9.3	74.5	99.4	3	0	- 2	119	9.1	79.9	97.9	2	+ 4	0	179	9.1	79.1	96.8	3	+ 2	- 2
60	9.0	74.6	98.1	4	- 4	- 1	120†	8.6	75.9	00.5	3	+ 17	- 17	180	9.0	75.2	97.2	3	- 1	- 1



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
181	9.0	78.4	01.9	3	+ 3	+ 5	241	9.1	84.9	98.6	4	+ 3	+ 1	301†	8.8	81.5	95.9	2	+13	+ 3
182	9.0	79.5	00.6	3	0	- 2	242	9.2	86.9	00.8	5	+ 1	- 3	302	9.3	84.9	99.2	3	- 6	0
183	9.5	84.9	01.9	3	- 1	+ 2	243	9.0	75.2	00.5	4	+ 3	0	303	6.8	73.9	97.8	5	- 1	- 4
184	9.3	79.9	96.8	3	- 2	- 1	244	9.1	78.1	98.8	4	0	+ 1	304	9.4	81.9	95.3	2	- 7	- 2
185	8.8	81.4	01.2	4	+ 7	+ 1	245	9.4	81.4	95.8	3	- 4	- 1	305†	9.5	88.0	95.9	2	-18	0
186	8.7	79.7	01.2	4	+ 6	0	246	8.0	77.2	95.8	3	0	- 2	306†	7.0	75.6	95.9	2	+ 5	- 3
187	9.0	79.1	00.6	3	0	+ 2	247	9.1	86.9	99.5	3	- 6	0	307	9.2	87.4	95.8	2	- 9	- 2
188	8.4	76.0	96.8	2	+ 5	+ 1	248	9.3	87.9	99.2	3	- 4	+ 2	308	8.5	77.8	95.7	3	+ 4	- 2
189†	9.0	73.9	96.8	3	- 5	+ 4	249	9.0	75.4	98.0	5	+ 4	+ 2	309†	9.0	76.8	95.8	2	+ 2	+ 1
190	9.0	75.1	03.0	2	+ 5	- 2	250	9.3	74.8	98.2	5	0	- 2	310†	9.2	76.3	98.6	4	+ 6	- 4
191	9.1	86.5	98.4	5	- 4	- 2	251	9.3	88.0	98.4	4	- 8	- 1	311	9.2	85.2	98.3	4	- 6	0
192	9.4	78.7	00.6	3	- 1	- 1	252	9.5	73.9	98.2	5	- 1	- 2	312	9.5	74.7	97.8	5	- 3	0
193	9.0	76.2	03.0	2	- 2	- 3	253	9.5	81.9	99.5	3	- 4	+ 2	313	9.0	72.9	95.9	2	- 2	+ 3
194	9.3	85.4	00.6	3	- 4	- 2	254	9.4	86.9	98.4	4	- 9	0	314†	9.2	89.8	98.6	4	-10	0
195†	9.5	73.8	97.2	3	-22	- 6	255	9.2	88.4	95.8	2	- 7	0	315	9.5	84.4	98.6	4	0	+ 5
196	8.4	74.5	01.9	3	+ 1	- 4	256	8.9	76.3	98.4	4	+ 1	+ 1	316	8.8	76.1	95.3	2	+ 4	+ 1
197	8.6	75.2	97.2	3	+ 1	- 2	257	9.4	84.6	99.5	3	- 2	+ 1	317	9.3	79.0	98.6	4	+ 2	+ 2
198	9.0	78.3	01.9	3	+ 3	+ 1	258	7.6	76.7	99.2	3	+ 9	+ 4	318†	9.4	81.4	95.7	2	+ 4	0
199	8.5	81.0	01.9	3	+ 5	+ 1	259	8.7	76.7	99.3	2	+ 4	- 1	319	9.3	86.6	95.9	2	+ 1	- 3
200	9.3	81.9	03.0	2	0	+ 1	260	8.4	74.8	98.2	5	+ 3	0	320	9.3	87.9	96.3	2	- 4	0
201	9.0	74.2	01.9	3	0	0	261	9.3	76.0	00.5	4	0	0	321	9.5	73.8	95.3	2	+ 6	+ 9
202	9.0	75.1	97.2	3	- 2	- 1	262	9.0	77.2	00.5	4	+ 1	+ 3	322	9.2	85.5	95.3	2	- 4	0
203	8.7	79.9	01.9	3	+ 4	- 1	263	8.0	76.0	97.8	5	+ 3	+ 1	323	9.0	73.3	95.8	2	0	0
204	9.1	82.2	00.6	3	+ 2	0	264	8.5	74.4	99.5	3	+ 8	+ 6	324	9.5	76.1	95.7	2	- 7	+ 1
205	9.0	78.1	97.2	3	- 5	- 1	265	9.2	84.4	99.3	2	- 3	+ 2	325	9.1	75.1	96.3	2	+ 7	+ 3
206	9.5	85.9	99.2	3	- 3	- 1	266	9.5	73.5	99.2	3	+ 2	+ 4	326	9.4	77.9	95.3	2	- 7	- 6
207	8.1	73.4	00.6	3	+ 3	+ 1	267†	6.0	78.1	99.5	3	+ 7	- 4	327	9.2	86.9	96.3	2	- 6	0
208	9.5	89.9	01.9	3	- 7	- 1	268	9.5	84.9	99.5	3	- 5	- 3	328†	9.0	73.9	95.7	2	+29	- 6
209	9.1	83.4	97.2	3	- 1	+ 3	269	8.2	77.1	95.9	2	+ 6	- 2	329†	8.1	79.3	95.7	2	+ 8	0
210	8.9	76.4	99.2	3	+ 3	0	270	9.0	78.4	99.5	3	- 5	- 2	330	9.5	74.0	95.7	2	- 8	- 2
211	9.0	81.2	01.9	3	+ 1	- 1	271	8.9	77.4	98.4	4	+ 2	+ 3	331	8.7	75.7	95.8	2	+ 1	0
212	9.2	87.4	00.6	3	0	0	272	8.7	75.3	99.5	3	+ 4	- 3	332	9.1	85.9	95.8	2	- 1	- 5
213†	9.3	83.9	01.9	3	+12	- 8	273	9.0	78.9	95.9	2	- 1	- 2	333	9.1	73.4	95.3	2	+ 4	0
214†	8.9	74.9	98.6	4	+ 7	+ 1	274	8.4	80.9	98.4	4	+ 4	- 2	334	9.5	75.2	95.3	2	- 6	0
215	8.9	76.5	99.6	4	- 4	+ 1	275	9.0	77.1	95.4	2	+ 1	- 2	335	9.3	87.2	95.9	2	- 3	+ 1
216	9.2	81.9	01.9	3	- 1	+ 4	276	9.3	81.2	95.9	2	- 2	+ 2	336	9.0	73.8	99.3	2	0	+ 3
217†	9.5	81.9	02.2	4	-11	+ 2	277	9.0	76.8	99.2	3	+ 7	+ 1	337	9.2	84.9	95.9	2	- 3	+ 2
218†	9.4	81.9	02.2	4	-10	+ 5	278	9.4	81.6	95.9	2	- 3	+ 2	338	8.7	74.2	96.3	2	0	- 1
219	8.1	74.6	98.6	4	+ 5	- 1	279	9.5	79.2	95.9	2	- 5	+ 2	339	9.3	74.8	96.3	2	+ 1	0
220	9.0	79.3	97.2	3	+ 2	- 2	280	9.4	86.9	95.9	2	- 4	+ 1	340	9.2	85.9	95.7	2	- 3	+ 1
221	8.8	74.8	03.0	2	+ 1	- 2	281	9.2	77.9	95.9	2	+ 3	+ 1	341	9.1	86.5	95.7	2	- 4	- 2
222†	9.3	88.4	00.6	3	-12	+ 3	282	9.1	85.9	99.5	3	+ 3	+ 1	342†	8.6	80.2	95.3	2	+10	0
223	8.9	74.9	00.6	3	+ 1	+ 1	283†	9.1	83.0	99.5	3	-11	+ 3	343	8.3	79.6	95.3	2	+ 8	- 4
224	8.7	74.8	99.9	4	+ 2	+ 1	284	9.4	83.9	98.3	4	- 5	+ 4	344†	8.8	73.8	95.8	2	+20	-25
225	7.2	92.9	99.2	3	+ 8	+ 3	285	9.0	86.6	99.2	3	+ 6	- 3	345	8.8	77.2	95.8	3	+ 8	- 1
226†	8.9	78.6	03.0	2	+11	+ 1	286	8.7	75.3	00.0	6	+ 5	- 1	346	9.3	81.9	95.5	3	- 4	+ 3
227	9.4	81.6	99.2	3	- 6	- 3	287	8.6	80.2	98.0	5	0	- 1	347	9.0	76.9	95.8	3	+ 3	+ 3
228	9.0	82.9	97.2	3	- 2	+ 4	288	8.4	79.9	98.0	5	- 3	- 3	348	9.0	77.4	98.1	3	+ 5	+ 3
229	9.3	82.4	98.6	4	- 5	0	289	8.5	77.3	95.9	2	+ 6	+ 2	349	6.7	79.9	96.3	2	+ 4	- 3
230	8.5	75.1	00.6	3	+ 1	- 1	290†	9.5	81.9	97.8	5	-14	+ 1	350	9.0	79.9	99.3	2	+ 2	0
231†	7.6	75.6	99.2	3	+18	- 7	291	9.5	81.9	98.6	4	- 7	- 1	351	8.2	75.9	95.7	2	+ 1	+ 2
232	9.1	87.9	00.5	4	+ 1	+ 3	292	8.9	79.9	97.8	5	+ 5	- 4	352	8.5	83.3	95.8	2	+ 9	+ 2
233	9.1	79.8	99.1	4	- 1	+ 2	293	8.5	74.8	98.3	4	+ 1	+ 1	353	9.2	87.9	98.4	4	- 1	+ 2
234	9.4	77.2	99.2	3	- 5	0	294	9.3	82.0	98.6	4	- 3	+ 1	354	8.0	79.4	96.5	3	+ 2	- 1
235	9.3	87.9	99.2	3	- 3	+ 1	295	9.5	74.2	99.5	3	+ 1	+ 5	355	9.0	81.6	99.2	3	+ 2	+ 1
236	9.0	82.9	98.8	4	+ 1	- 1	296	9.0	88.5	99.2	3	0	+ 2	356	8.8	76.9	95.7	3	+ 6	+ 1
237	9.2	88.0	98.0	5	- 7	+ 3	297	8.9	76.7	99.2	3	+ 9	+ 1	357	9.2	88.0	95.7	3	- 6	0
238	8.0	77.9	98.8	4	+ 7	- 3	298	9.1	74.8	95.9	2	+ 6	+ 3	358†	9.5	73.8	97.5	4	-12	0
239	9.4	75.9	99.1	4	- 1	+ 1	299	8.6	77.9	95.9	2	+ 3	0	359	9.0	74.2	96.5	3	- 5	0
240†	9.2	87.9	95.8	1	-14	- 1	300	9.0	75.2	95.3	2	0	+ 2	360	9.4	81.9	99.2	3	- 6	0



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
361	8.3	78.4	95.7	3	+ 5	- 3	421	8.6	80.1	99.3	3	+ 5	- 2	481	9.1	87.9	00.5	3	- 4	- 1
362	9.3	81.9	99.2	3	+ 5	+ 6	422	8.7	75.4	99.4	2	- 3	+ 2	482	9.5	73.8	97.9	3	- 8	+ 3
363	9.2	77.9	95.8	2	- 1	+ 2	423	9.0	74.3	99.3	3	+ 1	- 2	483	9.0	75.2	96.1	3	0	- 1
364	9.0	77.4	95.7	3	- 4	0	424	9.5	73.8	99.3	3	- 2	+ 7	484	8.3	75.9	96.8	3	+ 1	- 4
365	8.5	90.4	95.7	3	- 3	+ 5	425	9.2	85.9	95.8	2	+ 2	- 1	485	9.4	75.1	99.3	5	+ 3	+ 2
366	8.1	84.9	95.7	3	- 3	- 1	426†	8.5	76.1	96.5	3	+ 13	- 4	486†	7.5	75.3	96.8	3	+ 14	- 2
367	8.3	75.9	95.7	2	+ 4	0	427	9.0	73.9	95.8	3	- 1	+ 1	487†	5.7	74.7	97.9	2	+ 12	- 2
368	8.7	74.2	99.6	3	- 2	+ 1	428	9.5	86.9	99.3	3	0	+ 2	488†	9.0	77.8	96.5	3	+ 15	- 2
369	8.6	74.1	98.6	4	+ 5	- 9	429	9.0	74.3	98.5	3	- 4	+ 2	489	9.5	78.4	96.5	3	- 3	- 2
370†	4.1	Fund.	99.2	3	- 9	- 22	430	9.2	84.4	98.9	4	- 3	+ 2	490	9.4	75.5	97.9	2	0	0
371	9.0	81.5	99.2	3	+ 4	+ 3	431	9.1	86.0	99.3	3	- 1	- 3	491	9.5	81.5	96.5	3	- 6	- 4
372†	9.0	79.9	99.3	2	- 19	+ 1	432	9.3	86.9	99.3	3	- 5	- 3	492	9.0	84.3	95.8	1	- 5	0
373†	9.5	80.5	99.6	3	- 16	+ 4	433	9.0	75.9	98.3	5	+ 1	- 3	493	7.6	75.5	97.9	2	+ 5	0
374	9.0	73.9	99.6	3	- 5	- 1	434	8.4	74.4	98.9	4	+ 4	0	494	9.3	87.6	97.3	2	- 8	+ 4
375	6.5	82.6	95.7	2	+ 6	0	435	9.0	75.9	98.3	5	+ 5	- 3	495	8.9	76.9	97.3	2	+ 8	- 3
376	8.7	81.1	99.6	3	+ 1	+ 5	436†	9.5	81.9	99.3	3	- 16	- 1	496	9.0	73.2	98.9	2	+ 2	- 3
377	9.4	77.9	99.3	2	- 6	- 1	437	8.5	80.5	95.8	2	+ 7	- 2	497	9.0	76.9	97.3	2	0	- 4
378†	3.3	Fund.	99.3	2	+ 11	- 7	438	8.4	78.7	95.8	3	- 1	0	498	7.4	86.2	96.3	2	0	- 2
379†	...	...	...	...	...	...	439	8.3	75.2	99.2	4	+ 5	0	499	9.1	75.9	97.3	2	- 1	- 2
380	8.8	78.1	95.7	2	0	- 2	440	9.2	87.9	99.2	4	- 6	- 1	500	9.4	85.9	98.9	2	- 5	0
381	8.5	74.1	98.6	4	+ 3	+ 1	441	8.5	80.5	98.1	6	+ 2	- 2	501	9.4	75.8	97.3	2	- 8	+ 2
382	8.6	85.4	96.3	2	+ 1	0	442	9.1	77.6	95.8	3	- 1	+ 1	502	9.0	79.3	98.9	2	0	+ 2
383	9.1	78.3	95.7	2	+ 4	0	443	9.5	82.3	98.9	5	0	- 2	503	9.5	82.3	97.9	2	- 4	- 2
384	9.5	77.1	99.2	3	+ 1	+ 4	444	7.0	73.9	95.8	3	0	+ 1	504	9.3	87.9	98.9	2	- 6	- 4
385	9.0	74.6	99.2	3	+ 1	+ 2	445†	9.5	79.9	99.2	4	- 4	+ 15	505	9.0	77.1	96.3	2	+ 4	- 2
386†	7.9	75.5	96.3	2	+ 8	+ 2	446	9.5	73.8	99.2	4	+ 1	- 4	506†	...	...	...	...	...	...
387	8.8	73.8	95.8	3	- 2	- 2	447	9.3	88.0	96.5	3	- 7	- 1	507	9.0	75.4	96.8	2	+ 2	- 2
388	9.5	84.9	99.5	3	- 4	- 4	448	9.4	81.9	95.8	2	- 6	- 1	508	9.3	85.4	96.8	2	- 5	+ 3
389	8.9	75.2	98.4	4	- 4	+ 1	449	9.4	76.9	95.8	2	- 8	+ 2	509	9.2	75.8	97.3	2	- 2	0
390	8.7	76.9	95.8	3	+ 7	0	450	7.8	82.9	99.3	2	+ 4	- 2	510	8.2	76.9	97.9	2	+ 8	0
391	9.4	79.5	95.8	3	0	0	451	9.0	79.5	97.4	2	+ 5	- 4	511	9.3	90.9	98.2	3	- 8	+ 4
392†	9.0	75.5	99.3	3	- 1	- 2	452	8.0	83.9	99.3	2	+ 4	+ 2	512	9.4	74.6	97.9	2	+ 4	0
393	8.2	75.1	99.5	3	+ 6	- 1	453	9.3	82.9	97.4	2	- 3	+ 8	513	9.5	73.9	96.3	2	+ 1	+ 4
394	8.9	74.9	95.8	3	- 1	+ 2	454	9.5	83.9	95.8	2	- 9	+ 2	514	9.3	87.9	98.2	3	- 3	- 2
395	9.5	73.9	99.3	3	+ 3	+ 6	455†	8.9	75.2	95.8	2	+ 10	- 2	515	9.4	76.4	96.8	2	0	+ 4
396	8.2	78.7	96.1	3	+ 3	- 2	456	9.5	83.8	95.8	2	+ 2	+ 2	516	9.0	85.2	96.3	2	- 4	- 2
397	9.5	79.9	95.8	2	- 5	0	457	8.6	89.9	97.4	2	+ 3	- 4	517	9.5	82.0	96.3	2	- 9	+ 3
398	9.2	88.3	95.8	3	- 7	+ 2	458	9.5	75.5	96.3	2	- 2	0	518	9.3	89.1	97.9	2	- 4	- 2
399	8.4	77.2	96.1	3	+ 5	+ 3	459	9.2	77.3	95.8	2	- 2	- 1	519	9.0	73.4	97.9	3	0	- 1
400	9.1	75.2	96.1	3	- 7	+ 1	460	9.0	75.5	96.3	2	+ 3	+ 3	520	9.1	87.2	96.8	2	- 8	+ 2
401	9.0	75.3	99.5	2	0	+ 5	461	9.0	76.4	96.9	3	+ 5	+ 2	521	7.5	81.4	96.3	2	+ 7	+ 3
402	9.4	87.0	99.5	3	- 3	0	462	9.4	78.9	97.4	2	- 4	- 2	522	8.2	78.6	96.5	3	+ 9	0
403	9.1	84.9	96.3	2	- 7	+ 2	463	8.6	78.4	95.8	2	- 2	- 2	523	9.5	72.9	97.9	3	+ 1	+ 1
404	9.0	74.4	99.3	3	0	+ 2	464	8.8	84.4	97.4	2	+ 1	- 3	524	8.4	75.1	97.2	3	+ 1	+ 2
405	9.4	81.9	99.3	3	+ 2	- 1	465	9.0	76.9	97.9	2	- 2	0	525	9.3	84.3	97.2	3	- 7	+ 1
406	8.9	75.6	99.5	3	0	+ 3	466	9.0	84.2	97.4	2	- 4	+ 1	526	8.8	80.5	98.9	2	+ 4	0
407	9.0	74.7	95.8	2	+ 2	- 3	467	7.1	77.3	95.8	2	- 2	+ 2	527	7.5	76.1	97.3	2	+ 5	- 1
408	9.3	85.9	95.8	2	- 4	+ 3	468	7.6	81.4	96.3	2	+ 8	0	528	9.3	84.5	97.9	3	- 2	+ 1
409	9.1	78.6	99.4	2	- 8	+ 6	469	9.3	83.9	97.4	2	- 6	- 4	529†	9.4	89.9	97.2	3	- 16	+ 1
410†	7.3	73.8	99.5	3	+ 10	+ 1	470	8.6	91.0	95.8	2	- 8	+ 2	530	9.0	75.7	97.2	3	+ 4	- 1
411	9.0	77.9	96.3	2	+ 1	+ 1	471	9.3	93.9	98.2	3	0	- 1	531	7.7	78.9	98.9	2	+ 5	- 2
412	7.6	78.2	95.8	2	+ 5	- 5	472	8.5	74.5	99.4	2	+ 3	+ 2	532	9.3	87.4	97.9	3	- 9	+ 2
413	9.3	85.9	99.3	3	+ 1	- 3	473	8.8	75.5	97.4	2	- 2	0	533	7.5	79.8	97.9	3	+ 5	- 5
414	9.1	76.7	96.3	2	+ 1	0	474	9.5	75.5	99.4	2	- 9	+ 5	534	9.0	75.0	97.9	3	0	+ 2
415	9.0	75.9	98.7	4	- 1	+ 2	475	9.5	80.9	97.9	2	0	0	535	8.7	80.6	97.9	3	+ 1	- 1
416	9.5	75.2	99.3	3	- 1	0	476	8.9	76.9	97.9	2	+ 4	0	536	9.5	73.9	00.7	5	+ 1	- 5
417	8.7	75.1	95.8	2	- 2	- 2	477	7.5	79.5	97.4	2	+ 7	- 5	537	7.6	77.3	98.1	4	+ 8	+ 1
418	8.7	75.9	96.3	2	+ 2	+ 2	478†	9.2	87.0	96.5	3	- 12	+ 2	538	9.2	86.4	97.7	4	+ 2	+ 2
419†	...	...	...	...	...	...	479	9.0	73.9	96.1	3	+ 5	+ 1	539	8.1	76.2	01.9	4	0	- 1
420	9.4	81.9	95.8	2	- 9	0	480†	9.3	82.9	97.9	2	- 16	+ 5	540	9.3	75.7	00.1	4	- 4	+ 3



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
541	8.5	79.1	97.5	3	+ 1	+ 1	601	9.2	74.2	96.5	3	+ 4	+ 2	661	7.2	74.6	98.1	4	+ 2	- 6
542	9.0	84.9	97.5	3	+ 3	0	602	9.4	87.6	96.7	3	- 2	+ 1	662	8.5	80.1	99.1	4	- 2	- 1
543	8.7	76.6	97.2	3	+ 4	+ 2	603†	9.3	81.9	99.2	3	- 17	+ 2	663	9.0	75.6	00.1	3	+ 8	- 3
544	9.0	75.6	97.2	3	+ 2	+ 3	604	8.2	77.2	00.2	6	+ 5	0	664	9.1	88.0	00.1	3	- 5	- 2
545	7.7	78.8	00.5	3	+ 2	+ 3	605	9.0	75.8	99.2	3	- 2	0	665	7.4	79.6	00.9	2	- 2	0
546†	7.8	73.8	97.2	3	+ 13	- 3	606	8.9	75.9	02.9	2	- 1	0	666	9.0	80.8	98.9	2	+ 2	0
547	8.5	74.9	01.8	4	0	+ 1	607	9.3	80.6	99.2	3	- 3	+ 4	667	9.2	87.9	98.8	6	- 2	+ 4
548	9.3	85.0	00.9	2	- 8	+ 4	608	9.2	85.3	96.5	3	0	+ 5	668†	9.5	85.9	98.9	2	- 15	0
549	9.3	87.6	96.9	2	- 5	+ 1	609	8.6	76.2	96.7	3	+ 3	- 4	669	9.0	79.9	98.6	3	+ 3	- 1
550	9.0	76.3	97.4	2	+ 3	0	610	9.5	76.1	96.7	3	- 4	- 2	670	8.2	80.7	00.9	2	+ 2	+ 2
551†	6.0	76.7	97.4	2	+ 5	0	611	8.3	79.6	99.2	3	+ 2	0	671	8.4	80.9	00.9	2	- 1	+ 2
552	8.7	79.1	00.9	2	0	0	612†	6.6	80.6	96.4	2	+ 10	0	672	8.4	80.2	98.9	2	+ 8	+ 2
553†	9.3	92.9	96.9	2	- 14	+ 4	613	7.0	76.5	96.3	2	+ 9	0	673	8.9	80.3	98.6	3	- 4	+ 1
554	9.0	88.2	02.9	2	- 8	+ 2	614	7.9	74.9	99.2	3	- 1	+ 1	674	9.0	80.9	00.9	2	- 4	- 1
555	8.6	79.5	96.9	2	+ 6	- 2	615	9.2	79.9	02.9	2	- 2	+ 5	675†	6.1	85.7	95.8	1	+ 3	- 6
556	9.0	75.5	00.9	2	+ 7	0	616	9.2	85.4	99.2	3	0	- 1	676	9.0	83.3	98.9	3	+ 2	+ 1
557	8.9	80.0	00.9	2	- 4	0	617	8.6	79.9	97.4	2	+ 2	- 2	677	9.2	87.6	00.1	3	- 1	+ 3
558	9.0	79.4	96.4	2	- 4	- 1	618	9.2	86.2	96.9	4	- 2	+ 1	678	9.0	82.9	02.9	2	- 2	+ 2
559	8.4	76.8	96.9	2	+ 4	+ 2	619	9.1	86.6	97.4	2	- 2	+ 1	679	8.0	82.2	98.9	2	+ 6	0
560	8.2	73.9	00.5	5	+ 7	+ 2	620	9.3	87.3	96.5	3	- 7	- 1	680	9.2	86.9	01.2	3	- 5	+ 4
561	9.5	89.9	00.9	2	+ 5	+ 4	621†	9.5	85.9	96.4	2	- 17	+ 3	681	9.0	77.3	00.1	3	+ 8	- 1
562	9.0	82.0	96.9	2	+ 2	+ 4	622	8.3	76.2	96.3	2	+ 6	- 2	682	9.1	87.9	98.9	2	- 6	- 1
563	9.0	76.4	96.6	4	+ 6	- 3	623	8.6	78.8	98.3	5	+ 7	+ 1	683	8.3	82.6	02.9	2	- 2	0
564	9.3	86.4	97.2	3	- 2	- 3	624	9.0	76.7	97.3	3	+ 2	0	684	9.2	87.9	01.2	3	+ 2	+ 3
565	9.5	75.6	00.4	6	- 2	+ 2	625	8.7	80.4	97.3	3	+ 4	+ 2	685	8.7	79.2	00.1	3	- 1	- 1
566	8.9	75.9	00.9	5	+ 1	0	626	9.2	87.3	97.3	3	- 5	+ 1	686	8.9	81.9	01.2	3	+ 1	+ 1
567	7.8	74.2	97.2	3	+ 6	- 3	627	8.8	77.4	96.8	3	+ 1	- 1	687	9.3	83.9	98.9	2	+ 2	- 2
568†	...	...	...	...	...	...	628	8.4	79.9	96.8	3	+ 2	+ 1	688†	4.0	Fund.	00.9	2	+ 9	- 5
569†	6.0	86.3	96.9	2	+ 10	0	629	9.3	79.2	97.3	3	- 1	0	689	9.3	81.9	00.9	2	- 7	+ 1
570†	9.5	81.5	00.9	2	- 14	0	630	9.3	88.2	99.1	6	- 6	+ 2	690	9.4	82.9	98.9	2	- 4	- 2
571†	8.0	78.9	98.9	3	+ 13	- 3	631†	6.7	81.3	98.1	4	+ 12	- 9	691	8.5	83.9	98.9	2	+ 8	+ 2
572	9.5	74.8	97.2	3	- 8	+ 1	632	8.8	75.4	99.2	3	+ 8	+ 5	692	8.5	83.9	98.9	2	+ 4	0
573	8.9	78.9	96.9	2	0	+ 1	633	9.3	76.6	99.2	3	- 9	+ 3	693	9.5	93.9	00.9	2	+ 9	- 2
574†	8.2	79.1	00.9	2	+ 14	- 9	634	9.0	76.0	98.5	2	- 2	0	694	9.0	83.9	98.9	2	- 4	+ 4
575	9.0	73.8	96.4	2	- 2	+ 1	635	8.4	79.3	97.9	4	+ 6	0	695	9.1	80.7	00.3	3	0	+ 2
576	8.6	92.8	96.4	2	0	+ 1	636	9.3	84.2	99.2	4	+ 1	0	696	9.4	83.9	98.9	2	- 3	+ 3
577†	9.2	86.9	97.2	3	- 12	+ 8	637	9.2	81.3	98.5	2	- 4	0	697	9.0	75.6	01.2	5	+ 3	- 3
578†	9.2	87.0	97.2	3	- 16	+ 3	638†	9.3	86.0	99.3	4	- 12	+ 3	698	6.5	82.2	01.6	3	- 1	0
579	9.2	84.2	00.9	5	- 4	- 1	639	9.1	86.3	99.2	4	- 5	+ 1	699	8.7	82.9	01.6	3	- 2	0
580	9.0	81.1	96.4	2	- 1	+ 2	640	9.1	76.2	98.5	2	- 1	- 2	700	8.8	77.7	00.3	5	- 8	- 4
581	9.5	72.9	00.9	2	- 2	+ 2	641	9.4	77.8	99.2	3	- 5	+ 1	701	8.0	86.9	96.8	2	0	+ 1
582	7.5	74.2	97.4	2	+ 2	- 2	642	8.5	75.2	99.2	3	+ 1	- 3	702	7.5	83.2	00.9	2	- 2	- 4
583	8.9	76.6	97.4	2	+ 1	- 1	643	9.0	83.3	97.9	4	+ 8	+ 1	703	8.5	81.3	01.6	3	- 1	+ 4
584	9.2	87.2	97.1	4	+ 3	0	644	8.4	75.5	00.8	3	+ 3	- 1	704	7.5	80.6	02.3	4	+ 9	- 1
585	8.9	80.9	97.1	4	- 9	- 4	645†	9.5	88.9	00.1	3	- 12	+ 2	705	9.1	76.9	99.0	2	+ 6	+ 3
586	7.2	81.6	96.4	2	+ 6	+ 1	646	9.0	81.8	98.5	2	+ 4	+ 1	706	7.5	82.7	02.3	4	0	- 3
587	9.0	75.1	96.4	2	+ 4	- 6	647	8.2	75.6	99.2	3	+ 8	- 3	707	8.5	79.6	03.1	4	+ 4	- 2
588†	9.5	82.5	97.6	4	- 13	+ 8	648	8.9	76.6	00.8	3	+ 4	- 1	708	9.0	78.9	00.3	3	+ 9	- 1
589	9.0	73.9	97.1	4	- 3	- 8	649	8.9	75.9	99.2	3	0	- 2	709†	9.2	88.9	02.3	4	- 1	0
590	9.3	86.6	01.9	4	- 6	0	650	8.9	74.5	97.9	3	+ 3	0	710	9.1	85.0	02.3	4	- 5	+ 5
591	8.9	76.9	96.5	3	- 1	0	651	8.5	75.9	97.9	4	0	+ 3	711†	9.3	87.4	02.3	4	- 20	+ 4
592	9.2	82.7	96.5	3	- 2	- 1	652	9.4	80.6	00.8	3	0	+ 1	712	7.6	83.2	98.9	3	+ 6	- 2
593	9.3	86.3	02.9	2	- 6	+ 2	653	8.9	77.2	00.8	3	+ 5	- 4	713	9.0	73.8	98.9	3	+ 8	- 3
594	9.2	88.6	99.2	3	- 5	+ 1	654	9.2	85.9	00.8	3	- 4	- 1	714	8.4	80.3	02.3	4	+ 5	- 7
595	8.5	76.8	01.9	4	+ 1	- 1	655	9.1	78.6	00.8	3	+ 4	- 3	715	8.9	83.7	00.9	2	0	- 2
596	8.9	83.9	03.6	3	- 5	0	656	9.5	73.9	98.1	4	+ 6	0	716	9.2	86.4	98.9	2	- 2	0
597	9.4	82.0	99.2	3	- 2	+ 2	657	9.1	87.3	00.1	3	+ 2	+ 3	717	7.5	79.6	01.6	3	+ 3	+ 2
598†	9.0	76.2	00.7	5	+ 9	+ 1	658	9.1	85.0	98.1	4	- 1	+ 2	718	9.0	80.4	01.5	3	- 8	- 2
599†	9.4	87.6	97.6	3	- 12	0	659	9.2	83.6	98.1	4	- 4	+ 1	719	8.3	77.2	98.9	2	+ 4	0
600†	8.8	75.2	96.5	3	+ 17	- 8	660	9.3	86.9	98.1	4	+ 5	+ 2	720	9.2	87.6	00.4	3	0	+ 1



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
721	8.4	78.7	00.4	3	+ 2	0	781	9.1	87.4	98.8	4	- 4	+ 2	841	8.6	75.6	97.4	2	+ 4	0
722	8.4	80.0	00.9	2	0	+ 4	782	9.2	88.6	00.9	2	0	+ 2	842	9.0	75.2	97.4	2	+ 6	+ 1
723	8.9	84.3	00.1	4	- 3	+ 1	783	9.1	87.6	96.8	4	- 1	+ 2	843	9.2	86.0	95.9	2	- 6	+ 1
724	9.1	87.6	00.9	2	- 2	+ 4	784	8.5	76.9	96.2	3	0	- 4	844	7.0	79.2	00.1	3	+ 6	+ 6
725	8.9	85.3	01.6	3	- 9	- 6	785	8.7	80.2	02.9	2	- 4	+ 1	845	8.1	81.1	00.1	3	- 3	- 2
726	8.9	77.2	01.5	3	+ 2	- 1	786	9.2	87.6	00.9	2	- 2	- 1	846†	9.4	86.9	02.7	4	- 11	+ 3
727	9.1	86.9	02.9	2	- 9	+ 2	787†	9.2	88.5	96.9	2	- 12	0	847	8.4	80.1	99.3	4	- 3	+ 2
728	9.4	75.2	98.9	2	- 6	0	788†	9.1	78.9	96.9	2	- 11	0	848	9.5	80.9	02.6	3	- 3	0
729	7.0	78.9	00.4	3	+ 3	- 3	789	8.1	75.6	98.9	4	+ 6	- 2	849†	7.3	77.9	97.2	3	+ 13	- 6
730	8.9	81.6	98.9	3	+ 2	+ 1	790	9.2	85.0	98.9	4	- 3	0	850	9.4	74.9	97.4	2	+ 4	- 2
731	9.1	79.9	98.9	3	- 1	+ 1	791	9.5	93.9	02.9	2	0	+ 4	851	8.0	78.6	02.9	2	+ 4	+ 3
732†	9.2	86.4	00.4	3	+ 7	+ 4	792	8.9	88.6	96.8	4	- 1	+ 1	852	9.3	86.6	95.9	2	- 8	0
733	9.1	80.9	97.9	4	- 7	+ 1	793	8.6	76.9	96.4	5	+ 6	- 2	853†	9.0	75.2	95.9	2	+ 14	- 4
734	9.5	82.0	97.9	4	- 4	+ 2	794	8.6	91.7	00.9	2	- 3	+ 3	854	9.5	73.9	97.3	2	- 2	- 4
735†	9.1	86.0	00.6	5	+ 4	0	795	9.2	74.0	98.9	4	+ 2	- 3	855†	9.5	93.9	02.9	2	+ 6	- 21
736	9.0	83.5	97.9	4	- 8	0	796	8.2	80.6	96.9	2	0	0	856	9.0	73.9	02.4	2	+ 1	0
737	7.9	82.2	00.2	3	+ 4	+ 1	797	8.7	80.9	96.9	5	0	+ 2	857	9.0	75.0	02.4	2	+ 2	+ 2
738	8.3	81.9	97.9	4	+ 3	- 2	798†	9.3	88.0	02.9	2	- 14	+ 6	858	9.4	77.3	97.3	2	- 5	+ 1
739	9.0	79.5	00.6	5	- 1	0	799†	8.5	80.6	98.7	9	+ 3	- 3	859	8.5	76.4	97.5	3	+ 6	- 1
740	9.1	77.2	99.6	5	+ 1	- 2	800†	7.7	82.1	96.9	5	+ 18	- 8	860	8.9	75.3	97.5	3	- 1	+ 1
741	8.9	81.2	00.3	3	- 2	- 1	801	9.0	82.9	02.9	5	- 2	+ 4	861	9.5	85.5	96.5	3	0	- 1
742	8.4	80.7	97.9	4	- 5	+ 2	802	8.5	78.3	96.8	5	- 4	- 6	862	8.8	85.3	97.5	3	- 6	+ 2
743	7.8	82.2	00.2	6	+ 2	- 1	803	9.1	79.4	01.2	3	- 2	0	863	8.8	84.2	96.7	3	+ 3	- 1
744	9.2	89.5	00.9	2	- 4	0	804	9.1	86.2	96.5	6	- 6	0	864	9.0	74.4	98.4	2	- 1	- 2
745	8.3	78.4	99.6	5	+ 2	- 1	805	8.9	80.0	96.4	4	0	+ 2	865	8.5	80.2	02.4	2	+ 3	- 1
746	9.0	82.3	00.3	3	0	0	806	8.8	78.9	99.7	6	- 1	- 1	866	8.9	80.4	97.5	3	- 5	0
747	8.4	85.9	01.9	4	- 1	0	807	9.5	78.4	94.2	4	+ 6	- 2	867†	8.8	76.6	98.4	2	+ 18	- 2
748	8.8	83.9	99.8	4	+ 4	+ 2	808	9.5	76.9	95.9	2	+ 2	+ 2	868	8.0	79.0	02.4	2	0	+ 2
749†	9.1	88.9	99.0	2	- 10	+ 3	809	8.2	82.0	96.3	4	+ 8	0	869	9.1	81.3	02.4	2	0	0
750	9.3	89.9	99.0	2	0	0	810	9.1	78.4	02.4	2	+ 4	+ 2	870†	9.5	88.4	96.7	3	- 14	+ 1
751	8.9	85.1	00.9	2	+ 2	0	811	9.1	86.4	96.8	3	- 1	+ 1	871	9.1	87.3	98.4	2	- 6	+ 1
752†	9.2	82.6	00.9	2	+ 10	- 6	812	6.9	79.2	96.8	3	- 1	- 3	872	9.1	73.9	99.6	7	+ 4	- 1
753†	9.1	79.9	00.9	2	- 11	- 2	813	9.2	79.0	97.8	3	- 5	+ 3	873†	9.4	86.9	03.9	3	- 40	+ 4
754	9.3	82.5	00.9	2	- 1	+ 2	814	8.5	90.4	96.3	4	- 3	- 2	874	8.8	75.9	97.5	3	- 1	+ 1
755	8.5	81.9	99.0	2	+ 2	0	815†	8.0	75.6	98.6	5	+ 11	0	875†	...	...	...	...	...	...
756	9.3	79.9	01.9	4	- 6	- 2	816	8.9	79.9	95.9	2	+ 2	- 6	876	8.7	73.9	99.5	3	- 2	- 3
757	8.4	80.4	99.0	2	+ 1	+ 2	817	7.0	86.6	01.4	2	+ 2	+ 1	877†	9.1	85.6	00.4	4	- 11	+ 6
758†	4.0	Fund.	99.8	4	+ 6	- 2	818†	9.5	80.3	95.9	2	- 14	+ 3	878	8.1	76.9	99.5	3	+ 2	+ 2
759	9.3	83.9	97.6	3	- 5	+ 3	819	8.5	80.1	96.3	4	+ 1	+ 4	879†	9.3	93.9	02.9	3	+ 12	+ 8
760	9.2	81.9	97.6	3	0	+ 1	820†	7.5	80.5	02.4	2	+ 12	- 3	880†	...	...	...	...	...	...
761	9.0	80.1	01.9	4	0	- 2	821	9.2	86.6	95.9	2	- 8	+ 2	881	9.2	79.4	02.9	3	- 1	0
762†	5.2	82.1	99.0	2	+ 7	- 4	822	9.1	86.2	99.1	4	- 6	+ 2	882	9.5	73.9	00.0	3	- 3	0
763	8.9	81.7	99.0	2	0	+ 3	823	9.1	87.3	99.1	4	- 6	+ 2	883	9.0	82.9	96.4	2	- 8	0
764	8.6	80.6	99.0	5	+ 6	- 1	824	8.3	79.9	02.5	3	+ 6	+ 2	884	8.6	92.9	02.9	3	0	+ 2
765	9.0	76.9	00.9	2	0	+ 2	825	8.0	75.6	99.1	4	+ 3	+ 1	885	7.4	83.8	97.8	2	+ 2	- 4
766	8.9	76.6	99.0	2	+ 4	+ 2	826	9.2	87.1	99.1	4	- 2	0	886	9.0	75.2	98.4	2	- 2	0
767	9.1	83.6	97.6	3	+ 3	+ 2	827	7.4	81.9	02.5	3	+ 6	- 2	887	7.3	82.6	96.4	2	+ 6	- 2
768	9.2	87.6	00.8	5	- 2	+ 1	828	9.1	78.6	98.4	2	0	+ 2	888	8.8	75.6	97.8	2	+ 2	0
769	9.0	75.6	00.8	5	0	- 1	829	9.4	80.2	02.4	2	- 1	- 3	889	9.4	79.5	02.4	2	- 5	+ 2
770	8.6	77.9	99.6	7	- 1	+ 3	830	8.7	78.5	97.0	4	+ 1	0	890	8.1	76.6	97.8	2	+ 8	+ 2
771†	9.5	81.9	00.8	5	- 10	0	831	9.0	87.2	02.4	2	- 8	+ 2	891	9.0	86.3	00.0	3	- 4	+ 1
772	9.0	78.9	97.8	6	- 4	0	832	8.4	86.3	02.9	2	- 5	- 4	892	9.3	86.0	02.9	2	- 5	0
773	9.4	84.6	96.8	4	- 8	0	833	9.5	83.9	02.4	2	+ 1	- 1	893	8.2	75.7	98.4	2	+ 2	- 4
774	9.0	80.5	01.6	3	+ 3	+ 2	834	8.5	74.9	99.9	3	- 1	- 4	894	9.0	78.7	00.0	3	+ 1	0
775	9.0	80.0	96.8	4	- 6	+ 2	835	9.0	83.9	02.9	2	+ 4	- 1	895†	9.0	75.9	02.4	2	- 14	0
776	8.2	82.4	97.6	3	+ 1	- 1	836	9.0	86.9	02.4	2	- 6	- 3	896	8.9	78.1	97.1	3	- 3	+ 1
777	9.4	82.0	96.8	4	- 8	+ 3	837	8.5	87.6	02.4	2	0	+ 2	897	9.4	80.6	96.4	2	- 7	+ 1
778	8.1	82.3	97.8	6	+ 5	0	838	8.2	77.3	95.9	2	+ 6	0	898	9.0	85.9	02.9	2	0	0
779	9.4	88.9	00.9	2	- 2	+ 1	839	8.6	75.6	99.9	3	0	- 1	899	9.1	77.2	96.4	2	+ 1	- 2
780	8.7	75.2	96.9	2	+ 4	0	840	8.1	86.5	97.8	3	0	+ 1	900	9.0	78.9	02.4	2	+ 1	0



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
901	9.1	85.9	02.6	3	+ 1	+ 1	961	9.0	76.3	96.5	3	+ 7	- 1	1021	9.1	77.5	96.4	2	- 2	+ 2
902	9.3	80.4	96.4	2	0	+ 3	962	8.6	75.3	95.8	3	+ 6	- 1	1022†	4.3	Fund.	02.2	3	+ 4	- 22
903	8.0	78.7	98.9	4	- 3	- 2	963	8.7	73.9	98.3	2	0	+ 1	1023	7.0	78.5	99.5	3	+ 3	0
904†	8.1	78.6	02.9	2	+ 19	+ 1	964	9.0	80.6	02.9	2	- 1	+ 4	1024	8.3	83.3	96.4	2	+ 2	+ 2
905†	9.3	81.7	98.4	2	- 13	+ 1	965	9.1	86.3	96.4	2	- 6	+ 2	1025	9.0	81.9	02.2	3	- 9	+ 2
906†	8.8	74.4	99.9	3	+ 38	- 17	966†	8.7	77.5	99.9	3	+ 11	- 4	1026	7.0	85.9	00.1	6	+ 1	+ 1
907	9.0	76.5	97.1	3	- 6	- 1	967	9.0	81.9	02.4	2	- 2	+ 2	1027†	...	...	...	...	...	...
908	8.5	76.1	98.4	2	- 2	0	968	8.3	80.0	02.9	2	+ 2	+ 3	1028†	7.5	80.9	00.1	6	+ 11	- 5
909	8.8	75.0	99.3	3	+ 5	0	969	8.7	81.3	02.4	2	+ 1	0	1029	8.9	77.4	98.4	2	- 4	- 1
910	8.8	79.9	96.8	2	- 4	0	970	8.9	77.4	02.4	2	- 2	0	1030†	9.5	93.9	98.3	2	+ 18	- 4
911	9.5	76.0	96.8	2	0	+ 1	971	8.1	74.7	95.8	2	- 6	- 9	1031†	9.3	72.9	96.4	2	- 10	+ 4
912	9.2	93.0	96.4	2	- 6	+ 2	972	9.1	79.9	02.9	2	- 4	- 1	1032	8.7	81.4	96.4	2	- 2	- 1
913	9.0	84.9	02.4	2	+ 2	+ 5	973	7.0	78.9	95.8	2	+ 4	0	1033	8.5	93.0	99.0	5	+ 6	0
914	9.1	79.3	96.8	2	- 2	+ 4	974	9.0	85.9	95.8	2	- 6	+ 3	1034†	9.0	75.4	98.3	2	- 10	+ 4
915	9.1	73.9	99.0	4	- 2	+ 1	975	9.2	84.7	96.8	2	0	0	1035†	8.9	83.9	02.4	2	+ 12	0
916	7.2	79.4	96.4	2	+ 6	- 1	976	9.2	76.2	96.2	3	0	- 5	1036†	9.5	93.9	98.3	2	+ 11	0
917	9.0	76.4	96.8	2	+ 1	0	977	8.4	73.2	96.4	2	+ 6	+ 1	1037	7.5	88.0	96.4	2	+ 4	- 1
918†	7.8	79.9	96.4	2	+ 33	+ 10	978	9.1	79.5	96.4	2	- 6	0	1038	9.2	83.3	02.4	2	- 5	0
919†	8.4	80.8	02.4	2	+ 10	- 4	979	8.8	82.2	96.4	2	- 1	+ 1	1039	8.0	83.4	99.0	5	- 2	- 3
920	9.0	81.6	02.6	3	- 5	0	980	9.4	82.9	02.9	2	- 6	+ 2	1040	7.8	73.9	98.3	2	- 3	- 6
921	8.9	82.7	02.7	4	+ 2	+ 4	981†	9.3	86.6	95.8	2	- 12	+ 2	1041	9.3	83.9	02.4	2	0	+ 3
922	8.7	81.7	95.9	3	0	+ 3	982	8.5	77.7	95.8	2	- 2	+ 1	1042	8.0	77.5	98.1	4	- 2	+ 1
923	8.7	77.0	99.0	4	0	+ 2	983	8.3	81.3	02.9	2	+ 1	+ 1	1043	9.3	86.3	00.9	5	- 8	+ 2
924	8.3	81.2	97.2	3	+ 4	- 1	984	8.7	75.1	99.9	3	+ 4	- 1	1044	9.5	73.9	98.3	2	- 4	+ 2
925	9.4	80.4	02.6	3	- 2	+ 3	985	9.3	82.7	02.4	2	- 2	+ 2	1045	9.5	73.9	99.0	5	0	+ 2
926	9.0	75.2	02.4	2	+ 8	- 6	986	9.2	77.1	98.3	2	0	+ 1	1046	8.0	74.3	00.9	5	+ 3	+ 2
927	9.1	84.9	96.2	3	+ 1	- 2	987	9.5	81.0	96.5	3	- 3	+ 5	1047	9.0	73.0	96.4	2	+ 3	- 2
928	8.8	79.9	96.9	3	- 2	0	988	8.9	79.3	02.7	4	- 5	+ 5	1048	9.0	79.9	96.4	2	- 2	- 2
929	8.7	86.0	98.1	4	- 4	- 1	989	9.0	73.2	96.4	4	+ 2	- 1	1049†	7.5	82.6	02.4	2	+ 10	- 2
930	9.0	74.5	98.4	2	+ 4	+ 2	990	6.7	77.4	98.2	6	+ 5	0	1050	9.2	75.4	98.3	2	0	+ 2
931†	6.3	78.7	98.4	4	+ 12	- 3	991	8.4	86.2	97.2	3	- 3	+ 3	1051	8.3	83.3	02.4	2	+ 6	0
932†	6.0	80.1	02.4	2	- 1	- 2	992	8.3	79.1	96.9	3	0	- 1	1052	8.9	84.0	02.9	2	+ 3	+ 2
933	8.5	93.7	96.9	3	+ 9	0	993†	8.1	76.0	98.4	4	0	- 3	1053	9.1	79.9	02.4	2	- 4	0
934	8.9	78.1	97.2	3	- 1	- 1	994	8.8	83.9	98.4	4	0	0	1054	8.6	75.0	99.0	5	+ 4	0
935	8.6	81.9	96.9	3	+ 2	0	995	8.0	77.6	96.6	4	+ 2	- 4	1055	9.0	81.2	02.6	3	- 2	0
936	8.6	80.9	98.4	2	+ 3	0	996	9.2	86.6	97.2	3	- 4	+ 2	1056	8.3	82.9	02.4	2	- 1	- 1
937	8.9	78.0	98.4	4	- 6	0	997	9.3	76.0	97.2	3	+ 5	- 1	1057	8.8	77.9	96.4	2	- 2	- 3
938	9.0	79.9	98.4	4	- 8	- 5	998	9.3	80.9	97.2	3	- 5	+ 1	1058	8.8	88.9	96.4	2	- 5	0
939	7.5	75.4	99.9	3	0	+ 2	999	8.3	74.6	99.9	3	0	- 6	1059	9.5	88.0	96.4	2	- 6	+ 2
940	8.3	75.9	02.4	2	- 2	+ 1	1000	9.4	83.9	02.9	2	+ 1	+ 2	1060	7.6	88.9	02.9	2	- 1	- 6
941	9.5	73.9	97.2	3	- 5	+ 4	1001	8.3	83.3	97.2	3	+ 3	0	1061	9.1	87.5	00.1	5	+ 1	+ 2
942	8.8	76.5	99.9	3	+ 1	+ 2	1002	9.0	72.9	98.3	2	+ 2	- 2	1062†	9.5	88.9	02.9	2	- 13	+ 4
943	9.1	75.4	96.4	2	- 4	- 1	1003	9.2	86.9	97.2	3	- 5	- 2	1063	9.2	79.3	98.3	2	- 1	- 1
944†	9.2	85.6	95.8	2	- 10	+ 6	1004	8.0	81.9	02.9	2	+ 2	0	1064	9.0	73.5	00.1	6	- 2	- 2
945	9.3	86.3	96.8	2	- 2	0	1005	8.1	85.0	02.9	2	0	+ 1	1065†	9.2	81.0	00.1	6	- 13	0
946	9.1	74.6	99.5	3	- 4	- 2	1006	8.6	82.3	02.6	3	+ 4	- 3	1066	9.2	87.6	00.1	5	- 1	+ 3
947	9.3	87.2	99.5	3	- 8	- 1	1007	8.8	74.6	96.4	2	0	- 1	1067	9.1	83.9	98.3	2	- 6	0
948	9.5	77.7	95.8	2	0	0	1008	8.7	77.1	98.3	2	+ 6	+ 4	1068†	...	...	...	...	...	...
949	9.3	86.2	98.3	2	- 5	- 2	1009	9.2	86.4	96.4	2	+ 2	+ 1	1069	6.8	73.1	97.6	3	+ 7	- 7
950	7.7	75.0	98.2	3	+ 3	+ 1	1010	9.2	83.8	98.3	2	- 8	- 1	1070	8.5	74.6	00.1	5	+ 4	- 4
951	7.4	77.7	95.8	2	- 2	- 2	1011	9.3	82.0	02.4	2	- 2	+ 2	1071	9.2	76.9	97.2	3	- 1	+ 2
952	9.1	77.9	96.5	3	+ 3	- 2	1012†	9.2	87.4	99.3	3	- 13	- 1	1072	9.5	73.9	99.8	6	+ 7	+ 2
953	9.2	87.9	96.5	3	- 2	0	1013	9.3	93.0	02.4	2	- 3	0	1073	7.8	76.6	97.9	5	+ 4	0
954	7.9	75.3	98.3	2	+ 2	- 1	1014	7.7	82.9	99.3	3	+ 1	0	1074†	8.9	73.3	99.8	8	- 5	- 5
955	9.1	80.7	96.3	4	- 1	+ 1	1015	9.0	82.9	99.3	3	+ 1	- 2	1075	9.0	77.9	00.2	3	- 1	- 1
956	9.1	87.7	96.4	2	- 1	+ 2	1016	9.0	83.3	99.3	3	- 1	+ 2	1076	8.9	81.6	00.2	3	0	+ 3
957	8.7	76.3	96.5	3	0	+ 2	1017	8.5	89.0	02.4	2	0	- 2	1077	8.7	76.0	99.6	4	- 4	+ 1
958	9.0	74.5	96.4	2	- 1	0	1018	8.2	83.2	99.3	3	+ 2	+ 1	1078	9.0	73.9	96.9	4	0	+ 1
959	8.4	78.0	96.5	3	+ 3	- 1	1019	9.0	87.4	99.3	3	- 4	+ 4	1079	9.0	74.6	00.6	4	+ 4	- 3
960	9.2	79.9	02.4	2	+ 2	0	1020	8.6	83.6	99.0	4	+ 5	+ 3	1080	9.0	83.6	99.6	4	0	+ 4



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No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
1081	9.3	87.5	99.6	4	- 6	+ 2	1141	7.0	82.3	96.3	2	+ 6	- 1	1201†	9.3	85.5	96.5	2	- 10	+ 4
1082	8.0	79.7	98.3	2	+ 3	+ 1	1142	7.8	82.6	98.2	3	+ 3	+ 1	1202	8.5	76.4	00.4	2	- 2	+ 2
1083	9.1	84.9	00.6	4	- 4	+ 5	1143	8.6	81.0	98.2	3	- 2	+ 1	1203	8.6	84.0	01.3	3	- 5	- 1
1084	8.5	78.0	98.3	2	- 2	- 2	1144	9.0	79.5	97.4	2	- 2	0	1204	8.5	78.9	95.4	2	+ 1	- 2
1085	9.4	77.3	00.6	4	- 3	+ 1	1145	8.1	83.9	99.4	2	+ 2	- 1	1205†	6.1	81.5	96.5	2	+ 14	0
1086†	9.5	74.0	99.6	4	+ 14	- 9	1146†	9.0	78.0	97.9	2	+ 10	- 22	1206	9.5	75.0	95.4	2	+ 3	+ 5
1087	9.1	78.6	98.8	2	+ 2	0	1147	9.3	83.9	99.4	2	- 4	+ 8	1207	9.0	83.4	02.6	3	+ 6	- 1
1088†	9.5	88.9	99.3	2	- 15	0	1148	9.1	91.5	03.1	2	- 4	+ 2	1208	8.8	74.5	95.4	2	+ 7	+ 7
1089	8.6	76.0	97.4	2	+ 1	0	1149	9.0	75.3	97.9	2	- 4	0	1209	8.5	81.0	02.6	3	+ 4	+ 3
1090	9.0	85.6	99.6	4	- 2	+ 6	1150	8.0	74.9	97.9	2	0	+ 2	1210	9.0	84.0	02.6	3	- 5	+ 2
1091†	9.5	75.6	99.5	5	- 10	- 2	1151	8.6	76.0	97.6	4	0	0	1211	9.0	84.0	02.6	3	- 2	+ 1
1092	8.5	79.6	97.4	2	+ 2	- 2	1152†	5.0	73.3	97.6	4	+ 6	- 1	1212	9.0	75.0	02.6	3	- 2	+ 1
1093	8.6	78.0	97.4	2	0	+ 1	1153	9.5	84.9	03.1	2	- 9	+ 4	1213	9.1	87.4	00.4	2	- 4	+ 1
1094	8.2	79.3	98.8	2	0	0	1154	9.0	74.3	95.5	3	- 3	0	1214†	9.4	79.0	96.4	4	- 13	- 7
1095	9.2	85.6	00.6	4	0	0	1155	8.7	78.0	97.5	5	+ 1	+ 2	1215	9.1	88.0	95.6	3	- 8	+ 2
1096†	...	...	...	...	...	...	1156	8.9	82.9	97.6	4	- 1	+ 4	1216	9.0	72.9	99.2	3	- 3	+ 3
1097	8.4	79.9	97.5	3	+ 4	+ 1	1157	9.0	83.9	01.0	3	+ 1	- 1	1217	8.9	76.9	00.4	2	0	+ 3
1098†	7.8	78.3	98.3	2	+ 6	+ 1	1158†	8.7	83.3	99.4	2	+ 12	- 13	1218	9.4	80.6	97.9	2	+ 2	+ 2
1099	9.5	78.2	99.5	5	- 6	+ 1	1159	9.2	85.0	98.3	3	- 3	+ 3	1219	6.8	80.0	00.4	2	+ 4	- 2
1100	9.1	79.6	97.8	3	- 8	- 1	1160	9.5	73.1	97.9	2	+ 2	0	1220	9.0	87.0	00.4	2	- 6	0
1101	9.0	75.0	98.8	5	+ 5	+ 2	1161	8.2	78.0	99.4	2	- 8	+ 1	1221	9.0	73.5	96.2	3	+ 1	- 3
1102	6.8	74.6	97.4	2	+ 6	+ 1	1162	9.0	74.3	98.9	3	+ 2	+ 2	1222†	7.0	74.3	00.4	2	+ 5	+ 2
1103	8.0	79.6	97.8	3	+ 4	- 2	1163	8.1	86.5	00.2	3	+ 6	+ 1	1223	7.0	88.0	02.4	2	+ 2	0
1104	8.6	82.3	97.8	3	- 1	0	1164	8.1	83.9	00.2	3	+ 3	0	1224	9.4	79.9	02.4	2	+ 5	- 4
1105	9.1	86.3	97.4	2	0	- 1	1165	9.5	75.5	98.9	3	+ 1	- 1	1225	8.9	76.7	97.9	2	0	+ 2
1106	9.0	73.9	97.4	2	+ 6	+ 1	1166†	6.8	77.1	98.3	3	+ 1	- 2	1226	9.2	85.0	95.6	3	- 6	+ 5
1107	9.5	73.9	95.7	2	- 2	+ 2	1167	9.1	76.0	95.4	2	+ 3	- 4	1227	9.3	73.0	99.2	3	- 3	+ 1
1108	8.2	78.7	95.4	2	+ 4	- 1	1168†	8.4	75.0	98.3	3	- 10	0	1228	9.1	87.9	97.9	2	- 2	0
1109	8.9	84.4	95.4	2	+ 2	+ 1	1169	9.4	74.6	97.9	2	+ 4	0	1229†	5.8	93.6	00.4	2	+ 6	- 1
1110	8.7	78.0	95.8	2	+ 1	0	1170†	9.5	74.0	98.4	4	- 11	+ 4	1230	8.6	76.0	97.2	3	+ 8	- 2
1111	8.5	77.6	95.7	2	- 4	- 2	1171	9.0	72.9	97.9	2	+ 1	+ 1	1231	9.5	73.9	96.3	2	+ 3	0
1112	8.0	82.3	97.9	2	- 4	- 4	1172	9.0	87.9	98.3	3	- 2	+ 3	1232	8.5	83.9	02.4	2	- 6	- 1
1113	7.6	74.7	96.9	2	+ 9	- 1	1173†	5.0	78.6	02.4	2	- 2	- 8	1233	9.1	77.3	97.9	2	+ 1	+ 2
1114†	6.0	75.3	95.7	2	+ 8	0	1174	8.0	80.4	00.4	2	- 2	0	1234	9.3	77.0	97.4	2	- 6	+ 2
1115	8.5	76.6	97.9	2	+ 2	0	1175	9.3	83.6	02.6	3	- 3	+ 1	1235	8.9	84.9	00.4	2	- 1	+ 2
1116†	9.5	73.9	95.4	2	+ 10	0	1176	9.2	88.5	02.4	2	- 3	- 2	1236	9.4	81.4	02.6	3	- 3	+ 1
1117	9.3	84.4	95.8	2	- 2	+ 2	1177	9.3	77.3	97.6	3	+ 3	+ 1	1237	8.2	80.5	97.4	2	0	+ 1
1118	9.3	82.3	95.4	2	- 6	0	1178	7.8	80.0	02.9	2	- 2	+ 6	1238	9.4	74.0	96.3	2	- 1	+ 2
1119	7.9	82.6	95.8	2	+ 2	0	1179	9.5	75.9	02.4	2	- 6	+ 2	1239	8.7	87.9	02.9	2	0	+ 1
1120	9.5	79.9	95.4	2	- 2	0	1180	9.3	75.0	00.4	2	- 2	- 4	1240	8.9	85.9	02.9	3	- 7	+ 6
1121	8.8	72.9	95.4	2	- 1	- 2	1181†	8.8	85.0	99.9	3	- 3	- 4	1241	9.1	80.9	01.4	4	- 4	+ 2
1122	6.8	76.3	95.7	2	+ 2	0	1182	9.0	72.9	97.6	3	- 1	+ 1	1242	6.5	84.0	02.2	3	+ 6	0
1123	9.0	81.4	96.9	3	- 3	+ 1	1183	9.2	90.0	99.9	3	- 1	+ 4	1243	9.0	73.5	97.2	3	+ 4	+ 4
1124	7.8	83.9	99.5	2	0	+ 2	1184	8.0	73.6	98.5	4	+ 5	- 5	1244	8.3	82.6	02.2	3	+ 1	- 2
1125	8.5	83.6	95.7	2	- 4	0	1185	9.5	74.0	97.6	3	+ 4	+ 2	1245	9.1	83.3	02.2	3	- 5	0
1126	8.5	86.4	95.4	2	- 5	- 1	1186	7.4	76.6	95.9	3	0	+ 1	1246	9.2	73.9	96.3	2	+ 3	0
1127	9.2	81.0	95.4	2	- 2	+ 2	1187	9.0	73.0	98.7	4	- 3	- 7	1247	9.5	74.0	97.9	2	- 2	- 3
1128	7.8	78.4	95.4	2	+ 6	0	1188	7.4	89.7	02.9	2	0	- 2	1248	8.0	72.9	99.2	3	+ 6	- 2
1129	9.1	86.6	95.8	2	- 1	+ 4	1189	9.1	92.6	96.7	4	- 8	+ 4	1249	7.3	90.0	00.4	2	+ 3	0
1130	9.2	90.0	95.4	2	0	+ 2	1190†	9.5	94.0	00.4	2	+ 12	0	1250†	8.2	76.3	96.3	2	+ 10	0
1131	9.0	75.4	97.2	3	- 6	0	1191	9.0	72.9	97.6	3	- 3	+ 2	1251	8.3	89.0	02.9	2	- 2	+ 3
1132	9.1	81.1	95.4	2	- 6	+ 1	1192†	6.5	83.9	00.4	2	+ 14	- 3	1252	8.6	82.6	02.4	2	+ 4	- 5
1133	9.0	84.4	98.3	3	- 4	+ 3	1193†	9.5	83.9	02.9	2	- 16	0	1253	9.3	78.4	01.3	3	+ 1	- 2
1134	8.5	86.0	97.5	3	- 8	+ 3	1194†	8.0	80.0	02.4	2	+ 2	+ 6	1254	9.1	77.7	97.6	3	- 5	+ 1
1135	8.8	83.4	95.9	2	- 6	0	1195†	8.0	80.0	02.4	2	- 2	+ 2	1255	8.7	74.5	97.1	4	- 5	- 5
1136	7.4	85.5	98.9	3	- 4	0	1196	9.5	80.9	00.4	2	- 6	+ 3	1256	9.5	81.9	97.6	3	- 6	+ 2
1137	6.6	82.3	95.4	2	+ 1	- 2	1197	9.1	87.0	96.6	2	- 4	- 1	1257	8.9	87.0	02.9	2	- 4	0
1138	6.5	93.0	98.9	3	- 1	- 2	1198	9.0	72.9	97.9	2	+ 2	+ 2	1258	8.9	76.6	97.6	3	+ 3	- 1
1139	7.6	85.5	98.9	3	+ 2	+ 3	1199	9.4	93.9	02.4	2	+ 2	+ 4	1259	8.6	78.0	96.5	3	- 3	+ 1
1140	9.4	93.9	96.6	4	+ 6	+ 1	1200†	8.0	74.3	95.4	2	+ 29	- 8	1260	9.3	77.9	00.4	2	- 3	0



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
1261	9.0	75.0	98.2	3	0	0	1321	9.2	86.9	02.4	2	-2	-1	1381	7.8	84.4	02.6	3	+3	-1
1262	9.0	79.0	97.7	5	+4	-3	1322	9.1	84.9	98.0	2	-1	+6	1382	8.6	76.5	97.2	3	+4	-3
1263	8.3	81.6	02.4	2	-1	+4	1323†	5.5	83.0	02.4	2	+3	-8	1383	9.0	88.5	02.4	2	-1	0
1264	8.0	77.6	97.6	3	0	+2	1324	7.8	79.6	02.4	2	+1	0	1384	9.0	76.5	97.9	3	0	+4
1265	8.7	93.1	02.4	2	0	0	1325†	9.2	75.0	97.9	2	+10	-8	1385	9.0	73.4	97.6	4	+5	-4
1266	9.1	76.4	97.1	4	-1	+4	1326	9.1	87.7	96.3	2	-4	0	1386	8.8	78.5	97.9	3	+5	-3
1267	9.2	78.3	00.4	2	-3	-2	1327	8.6	82.0	02.4	2	-2	+2	1387	9.3	84.9	00.4	2	+2	+3
1268	9.1	81.6	01.3	3	-5	+3	1328	9.1	91.3	96.3	2	+1	-2	1388	8.6	90.4	97.9	3	-5	+1
1269†	7.9	93.1	02.4	2	+2	+6	1329	9.5	91.9	02.6	3	-9	+2	1389	8.7	79.5	97.9	2	+1	+2
1270	8.7	83.5	98.2	3	+2	0	1330	8.1	82.0	02.4	2	+9	0	1390	9.2	93.0	98.9	3	+4	0
1271	8.7	75.0	98.2	3	-2	-7	1331	9.4	90.3	02.9	2	-1	+2	1391	9.0	77.5	98.9	3	-2	+1
1272	9.0	89.9	98.2	3	+6	0	1332	7.5	83.9	02.4	2	+1	+2	1392	8.5	88.5	97.6	4	+5	+2
1273	9.0	73.9	97.6	3	-1	0	1333	9.1	88.4	02.2	3	-8	+3	1393†	8.8	83.4	97.9	2	+12	0
1274	8.6	79.5	98.0	2	+3	0	1334	8.4	77.3	96.3	2	0	+1	1394†	8.7	93.5	02.9	2	-4	+10
1275†	9.5	94.0	96.3	2	+13	-2	1335	9.0	73.2	98.0	2	0	0	1395	9.0	88.9	97.4	2	+8	-1
1276	8.0	76.5	96.3	2	+3	+2	1336	9.2	84.0	97.6	3	-5	0	1396	9.1	86.4	97.4	2	+4	+2
1277	9.4	94.0	97.9	2	+8	+2	1337	9.0	77.9	00.9	3	-3	-3	1397	8.8	73.0	98.5	2	+5	+1
1278	9.0	93.3	97.9	2	-4	+8	1338	9.0	76.3	96.5	3	+6	+6	1398†	9.1	90.1	97.4	2	-6	-2
1279	8.6	74.5	98.0	2	+6	-3	1339	9.0	77.7	97.6	3	-6	-7	1399	8.7	86.5	97.9	2	+2	0
1280	8.5	81.7	02.4	2	-2	-2	1340	9.3	73.3	97.6	3	+5	0	1400	9.1	78.9	97.9	2	-3	-1
1281	8.8	88.4	00.4	2	+2	+2	1341	9.3	81.8	00.4	2	-6	0	1401†	9.2	84.9	97.9	3	-13	+4
1282	8.9	82.0	02.4	2	-2	+2	1342	9.0	76.3	97.1	4	+6	-1	1402	9.2	89.0	97.4	2	-2	0
1283	9.0	82.0	97.9	2	-8	-1	1343†	6.2	88.9	00.3	3	+6	0	1403†	9.0	83.4	97.4	2	+6	-10
1284	8.8	78.9	96.3	2	+1	0	1344	8.6	76.8	97.6	3	-1	-1	1404	7.6	87.0	99.5	2	+2	+1
1285†	9.3	85.0	97.9	2	0	+1	1345	9.4	83.6	00.4	2	-5	+2	1405	9.2	89.0	99.5	2	+7	-1
1286	9.0	73.9	00.4	2	0	+1	1346	9.0	86.6	02.9	2	-2	+2	1406†	5.5	88.9	97.4	2	+5	-1
1287	9.4	86.9	00.4	2	-4	+2	1347	9.3	77.0	98.9	3	+1	0	1407	8.0	91.5	97.4	2	+2	0
1288	8.7	80.0	02.9	2	-3	+2	1348	9.1	86.0	96.3	2	0	+1	1408†	9.2	93.1	97.4	2	-14	+9
1289	9.3	89.0	98.0	2	+6	-2	1349	7.4	74.2	98.0	2	+4	+2	1409	9.0	89.0	97.4	2	+1	0
1290	9.1	87.0	98.0	2	0	-2	1350	8.9	74.3	98.0	2	0	-4	1410	8.9	82.0	98.5	2	0	0
1291	9.5	74.6	96.3	2	-2	-1	1351	7.8	80.6	00.4	2	+6	-2	1411	9.1	90.1	97.4	2	-6	-1
1292	7.5	80.4	00.4	2	+6	-2	1352	9.1	85.9	96.3	2	-6	+1	1412	8.3	89.0	97.9	2	-4	-2
1293	8.0	74.2	98.0	2	+2	0	1353	8.4	75.9	00.4	2	+4	+1	1413	9.2	94.0	97.4	2	+4	+2
1294	9.3	83.9	02.4	2	-6	+2	1354	9.0	79.2	98.9	3	+1	+1	1414	8.8	90.0	98.5	2	-6	0
1295†	8.4	79.9	02.9	2	-2	-10	1355	8.9	83.6	98.9	3	0	0	1415	8.0	86.5	96.2	3	-3	+2
1296	8.5	83.6	00.4	2	0	-2	1356	7.4	88.2	02.4	2	+2	0	1416	8.5	84.5	96.6	3	-1	0
1297	8.0	80.7	97.2	3	-4	+3	1357	8.8	78.2	98.4	4	+1	+1	1417†	9.3	84.9	98.5	2	-11	+2
1298	9.0	73.6	97.2	3	+9	-3	1358	8.6	74.2	97.1	4	+4	-1	1418	8.7	85.7	99.2	4	0	-2
1299	9.0	79.0	97.1	4	-3	+2	1359	9.5	74.0	98.0	2	0	0	1419	7.6	88.5	95.9	2	+6	-1
1300	9.3	83.0	98.3	3	-9	+5	1360†	9.4	73.9	97.5	5	-10	+1	1420†	5.0	Fund.	98.0	3	+7	-1
1301	8.5	77.6	98.3	3	0	0	1361	9.0	76.2	96.5	3	-1	0	1421	8.8	86.5	95.9	2	-2	+4
1302	9.0	72.9	98.3	3	0	+2	1362	8.4	75.1	00.0	3	0	0	1422	8.9	87.0	97.4	2	-5	0
1303	9.0	80.7	98.3	3	+1	-2	1363	9.2	93.4	03.0	3	-6	+2	1423†	6.4	85.5	96.5	2	+3	+3
1304	7.8	83.9	02.6	3	+6	-1	1364	8.9	73.2	98.4	3	+1	-1	1424	8.6	84.4	95.9	2	-2	-2
1305†	9.2	84.9	96.1	3	-13	+3	1365	9.2	76.0	98.0	2	-2	+2	1425	7.9	82.0	97.4	2	+8	-1
1306	9.1	86.5	97.2	3	-3	-2	1366†	9.5	83.9	99.2	3	-12	+2	1426	7.5	86.0	98.6	3	+1	0
1307	8.7	83.3	02.4	2	-3	0	1367	8.2	85.7	02.9	2	0	+4	1427	9.3	87.7	96.5	2	-5	+1
1308	9.5	76.4	96.1	3	-6	+3	1368	9.3	74.7	97.6	3	0	+2	1428	8.3	82.3	96.9	2	+2	+1
1309	8.8	73.9	98.0	2	+6	-1	1369	8.9	75.6	98.6	4	+6	-3	1429	8.6	84.6	99.4	2	0	0
1310	8.7	77.9	02.9	2	-1	+4	1370	7.9	81.5	00.4	2	+4	0	1430	8.8	77.0	96.6	3	+3	+2
1311	9.0	81.3	96.3	2	+4	-4	1371	7.9	83.9	02.4	2	+2	0	1431	9.2	86.0	00.6	3	-3	+1
1312	7.6	75.0	97.9	2	-4	0	1372	7.0	80.7	00.4	2	0	-2	1432†	9.3	89.6	00.6	3	-15	+4
1313†	9.3	76.0	98.0	2	+12	+4	1373	8.0	74.0	96.8	2	+1	+1	1433	9.1	90.5	96.6	3	-9	+2
1314	6.5	74.3	96.3	2	+1	-5	1374	8.4	91.2	00.4	2	+1	-2	1434†	9.5	93.9	99.4	2	+10	0
1315	9.3	78.2	00.4	2	+4	+2	1375	9.1	81.3	00.4	2	-8	+2	1435†	9.1	90.1	96.7	4	-8	-4
1316	9.0	76.4	96.3	2	+3	+1	1376	8.0	80.0	97.6	3	+1	+1	1436†	8.0	76.0	97.3	3	+12	-10
1317	9.0	87.6	97.9	2	-4	+2	1377	9.2	74.2	97.9	2	-4	-3	1437	8.7	81.0	96.6	3	0	-1
1318	9.4	87.6	00.4	2	+2	-2	1378	9.2	87.0	02.4	2	-2	+2	1438	9.0	74.5	97.6	3	-2	-1
1319	9.1	82.0	02.4	2	-6	+2	1379	8.9	85.0	02.4	2	-3	-2	1439	9.3	73.4	97.6	3	+5	+2
1320	9.0	78.0	96.3	2	+2	+2	1380	9.1	82.5	00.4	2	-4	0	1440	8.7	87.0	99.4	2	-2	0



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
1441	9°0	93°1	99°4	2	+ 2	+ 6	1501	9°4	73°8	02°6	3	- 6	+ 7	1561	9°1	75°0	98°5	2	- 7	+ 2
1442	9°1	89°9	96°3	3	0	- 2	1502	9°2	76°1	01°0	3	- 8	+ 2	1562	8°5	88°1	00°9	2	+ 2	0
1443	9°3	93°9	95°9	2	+ 6	+ 1	1503	8°4	74°3	96°6	3	+ 6	+ 1	1563	9°0	79°2	01°6	3	- 2	0
1444	8°9	86°5	96°4	2	- 4	+ 6	1504	7°2	76°4	01°0	3	0	- 2	1564	9°0	80°1	02°3	3	- 2	0
1445	8°6	89°0	00°2	3	- 3	+ 1	1505	8°9	76°0	96°6	3	- 2	- 1	1565	8°7	80°4	98°5	2	+ 2	+ 1
1446	9°0	83°0	97°4	2	+ 1	+ 2	1506	9°0	84°1	97°3	3	- 3	+ 5	1566	9°4	79°7	98°5	2	- 5	+ 2
1447	8°2	74°5	95°9	2	+ 1	0	1507	8°2	79°7	01°0	3	+ 1	- 2	1567	7°9	93°5	02°3	3	+ 4	- 2
1448	9°2	92°0	00°2	3	- 1	0	1508	9°3	79°6	02°7	4	- 5	- 3	1568	8°5	78°4	98°5	2	- 6	+ 2
1449	9°5	73°9	97°4	2	0	+ 8	1509	8°6	86°0	02°6	3	+ 1	+ 3	1569	8°6	74°7	95°0	3	+ 2	- 1
1450	9°5	72°9	96°5	2	- 9	- 2	1510	9°0	79°6	97°3	3	+ 2	- 1	1570	8°6	77°7	03°0	3	0	0
1451	7°5	89°4	00°2	3	- 3	- 2	1511	9°1	79°1	02°6	3	+ 3	+ 3	1571	9°0	80°0	95°0	3	- 1	+ 1
1452†	5°1	75°3	98°2	3	+13	-10	1512†	7°6	77°7	96°6	3	+17	-10	1572	8°4	77°8	98°5	2	+ 4	- 4
1453	8°5	83°6	99°4	2	- 2	+ 4	1513†	9°5	85°0	97°2	4	- 8	+ 4	1573	9°1	78°0	95°0	3	- 7	+ 2
1454†	8°1	84°5	95°9	2	+17	- 4	1514	9°0	76°7	96°6	3	0	+ 1	1574	8°9	79°3	95°0	3	+ 4	- 1
1455	8°3	84°9	02°4	2	- 2	+ 2	1515	8°0	76°0	01°0	3	- 1	0	1575†	7°5	78°0	03°1	2	+ 2	- 2
1456	9°0	90°5	97°4	2	- 3	+ 1	1516	8°1	78°0	97°3	3	+ 1	- 5	1576	7°7	74°4	00°9	2	- 1	+ 1
1457	8°5	89°0	99°0	1	+ 2	- 2	1517	7°0	73°4	02°4	4	+ 7	- 1	1577	9°3	74°4	00°9	2	- 6	+ 3
1458	8°9	79°0	95°9	2	0	- 6	1518	9°1	81°8	02°6	3	- 5	+ 4	1578	8°1	86°7	96°0	2	+ 1	- 4
1459	8°6	79°0	96°5	2	- 7	0	1519	9°1	86°0	95°7	4	- 7	- 4	1579	9°5	82°1	03°1	2	- 8	+ 2
1460†	9°5	94°1	96°5	2	+ 8	+10	1520	8°8	78°1	95°7	4	- 3	+ 2	1580	9°2	75°1	02°4	2	- 3	+ 4
1461	9°0	78°5	99°4	2	0	+ 2	1521	8°9	79°8	02°4	2	0	- 2	1581†	8°1	75°8	96°3	3	-12	-51
1462†	9°3	91°9	96°5	2	-11	0	1522	9°1	86°4	95°7	4	+ 1	+ 3	1582	8°6	86°2	96°0	2	+ 1	0
1463†	9°4	94°0	99°4	2	+ 9	+ 8	1523†	9°0	81°3	02°4	2	+12	- 1	1583	9°0	77°1	02°4	2	- 1	0
1464	9°4	74°0	99°4	2	- 4	- 4	1524	9°1	83°1	02°4	2	+ 1	- 2	1584	8°0	90°1	96°0	2	0	- 3
1465	9°2	93°1	02°9	2	- 4	+ 6	1525	9°2	83°0	96°2	4	+ 4	+ 1	1585	9°5	75°1	96°6	3	- 1	+ 2
1466	8°5	83°4	98°3	4	- 6	+ 6	1526	9°1	87°6	96°2	4	- 2	+ 4	1586	8°5	89°1	96°0	2	+ 2	- 2
1467	9°0	83°1	02°4	2	+ 2	- 2	1527	9°0	74°0	96°4	5	0	+ 7	1587†	6°0	74°4	00°9	2	+10	0
1468	9°0	84°0	98°3	4	- 4	+ 1	1528	8°5	74°0	96°4	5	- 1	- 4	1588†	9°0	77°6	02°4	2	0	- 4
1469	7°1	82°0	02°9	2	- 1	+ 2	1529	9°5	73°5	01°0	3	- 5	- 2	1589	8°7	75°5	98°4	5	0	- 1
1470†	3°8	Fund.	98°3	4	+ 8	-10	1530	8°3	79°5	94°9	2	+ 1	+ 2	1590	9°2	83°1	02°4	2	0	0
1471	8°1	84°9	99°0	1	+ 2	- 1	1531†	9°5	86°1	03°0	2	-12	+ 4	1591	9°4	76°3	98°3	4	- 1	+ 3
1472	9°3	94°0	02°4	2	+ 7	- 2	1532	9°4	75°0	02°6	3	- 4	- 2	1592	6°9	74°5	98°7	3	+ 3	- 6
1473	7°4	84°0	02°4	2	+ 6	- 3	1533	9°0	75°0	96°0	2	- 1	0	1593	8°8	77°4	02°7	3	+ 3	0
1474	7°7	84°0	02°9	2	+ 1	0	1534	8°6	80°0	94°9	2	- 1	- 4	1594	8°7	86°1	00°0	3	- 2	- 2
1475	9°5	82°9	98°9	3	- 7	+ 2	1535†	9°2	79°8	03°0	2	-22	+ 4	1595	6°0	75°0	96°3	3	0	+ 4
1476	8°3	88°2	96°9	3	- 1	+ 2	1536	9°5	83°0	02°6	3	- 5	+ 2	1596	9°1	74°0	98°8	4	0	- 2
1477	9°5	74°0	02°4	2	- 5	- 1	1537	8°3	86°7	03°0	2	+ 5	- 1	1597	8°7	75°0	96°0	2	- 3	0
1478	8°0	76°3	96°9	3	0	+ 3	1538	8°6	89°7	94°9	2	+ 2	+ 2	1598	8°0	77°7	02°5	2	- 1	+ 1
1479	8°3	09°0	02°6	3	+ 1	+ 3	1539	8°4	79°3	94°9	2	+ 2	+ 1	1599†	9°0	78°8	02°5	2	+ 2	- 6
1480	8°0	90°3	03°0	3	- 3	- 2	1540	9°4	74°0	01°0	3	+ 3	- 2	1600†	6°2	75°5	96°0	2	+ 4	- 4
1481	8°9	85°0	02°6	3	+ 1	- 2	1541	8°3	77°7	03°0	2	- 2	+ 2	1601†	9°3	93°1	99°1	2	-10	+ 3
1482	8°5	83°9	96°9	3	+ 1	+ 1	1542	9°2	74°3	01°0	3	+ 4	+ 3	1602	8°3	77°5	98°0	3	- 1	0
1483	9°0	83°5	01°2	4	+ 4	- 2	1543	9°5	76°0	02°0	4	- 4	0	1603	8°3	90°4	98°0	5	+ 2	0
1484	8°7	80°5	01°2	4	+ 8	- 3	1544	9°5	79°4	95°6	3	- 9	0	1604	9°1	75°1	00°4	2	- 5	0
1485	8°3	93°1	02°7	3	- 6	+ 4	1545	9°2	80°1	95°6	3	- 8	0	1605	8°5	83°6	00°4	2	+ 4	+ 2
1486	8°9	91°9	99°0	1	- 7	+ 2	1546	9°4	81°0	95°6	3	- 9	+ 1	1606	9°0	75°0	00°9	3	0	+ 1
1487	9°1	86°1	01°2	4	- 7	+ 1	1547	9°1	76°2	02°0	4	- 2	+ 1	1607	8°4	83°4	00°4	2	- 1	0
1488	8°7	84°0	02°7	3	- 2	- 2	1548	9°4	74°0	02°0	4	+ 4	0	1608†	5°6	86°7	03°1	2	+ 4	+ 2
1489	8°6	73°2	01°3	3	0	- 2	1549	9°3	83°4	00°3	3	- 2	- 8	1609	8°3	87°8	97°9	2	+ 2	0
1490	8°3	81°3	03°6	4	0	+ 2	1550†	6°2	75°0	95°9	5	+ 8	- 1	1610	9°1	76°4	99°3	3	- 1	- 1
1491	9°5	82°0	97°3	3	0	- 1	1551	9°1	80°1	03°0	2	- 3	0	1611	7°9	80°0	97°9	2	+ 4	+ 1
1492	9°0	83°8	01°3	3	0	- 1	1552	9°3	77°0	00°9	2	+ 2	+ 4	1612	9°0	87°3	99°3	3	- 5	+ 1
1493	8°9	75°0	97°7	4	+ 2	- 3	1553†	7°1	78°4	95°6	3	+17	-11	1613	9°2	74°4	00°4	2	- 4	+ 2
1494	8°9	81°1	02°4	2	- 4	0	1554†	9°4	76°5	97°0	3	-11	- 2	1614	8°8	79°4	99°3	3	- 4	0
1495	9°5	73°9	96°9	4	- 8	+ 4	1555	9°2	74°7	95°6	3	- 1	+ 7	1615	9°5	74°1	02°5	2	- 2	- 3
1496	8°8	78°7	02°6	3	+ 3	+ 2	1556	9°2	86°6	02°4	2	0	+ 2	1616	8°3	77°7	99°3	3	+ 7	+ 2
1497	9°0	83°7	02°4	2	0	- 4	1557	9°1	83°4	96°0	2	0	+ 1	1617†	9°5	73°0	00°4	2	+17	0
1498	7°3	81°0	96°9	4	+ 2	- 1	1558†	6°6	74°2	98°5	2	+11	0	1618	9°0	87°6	99°3	3	+ 9	- 1
1499	9°0	74°5	96°9	4	+ 8	- 2	1559	8°1	77°3	98°5	2	0	0	1619	9°5	78°1	99°3	3	- 7	+ 2
1500	9°5	73°2	00°3	4	+ 3	- 1	1560	8°5	77°7	03°0	2	+ 8	0	1620	9°4	89°5	99°3	3	- 6	+ 1



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
1621	8.1	75.7	00.4	2	0	0	1681	9.4	79.7	00.4	2	0	+ 2	1741	9.1	83.8	99.7	3	- 3	+ 2
1622	8.6	74.2	00.4	2	+ 7	0	1682	9.1	77.0	01.7	4	0	- 1	1742†	8.5	80.8	99.7	3	+ 5	- 3
1623	8.2	80.6	99.3	3	+ 4	- 1	1683†	9.0	85.8	01.3	6	+ 1	+ 1	1743	8.9	74.0	00.7	3	0	+ 1
1624	8.8	75.1	99.5	4	+ 1	+ 2	1684	8.6	78.0	01.3	6	+ 8	- 2	1744	8.5	79.1	00.7	3	+ 7	- 2
1625†	9.4	77.1	02.5	2	- 10	+ 2	1685	9.4	80.1	99.2	4	- 6	- 2	1745	9.5	80.7	99.7	3	- 6	+ 5
1626†	9.5	94.0	02.5	2	+ 10	+ 6	1686	9.4	73.5	99.8	4	0	- 1	1746	7.4	76.7	02.5	2	+ 3	0
1627	9.2	74.0	00.4	2	- 8	0	1687	7.1	75.3	00.4	2	+ 3	- 8	1747	8.1	82.8	00.7	3	+ 7	+ 1
1628	9.0	79.5	01.3	3	0	- 5	1688	9.0	77.1	02.4	2	+ 2	0	1748	9.4	83.1	99.7	3	- 1	- 1
1629	8.9	80.3	99.4	5	- 2	0	1689	9.5	74.1	97.2	4	- 3	+ 3	1749	8.9	78.1	99.8	4	+ 8	0
1630	9.2	93.1	01.1	6	+ 5	+ 2	1690	8.7	86.7	99.3	3	- 4	+ 3	1750	8.5	75.3	00.9	2	0	- 4
1631†	9.5	81.6	99.5	4	- 16	+ 1	1691	9.0	85.8	99.3	3	0	+ 1	1751	8.8	93.0	99.3	3	+ 2	- 1
1632†	9.0	76.3	02.7	3	- 11	- 3	1692	9.0	75.1	98.5	2	+ 2	0	1752	9.5	83.8	99.7	3	- 9	0
1633†	9.2	76.6	01.0	9	- 2	- 1	1693	9.4	77.1	02.4	2	- 6	+ 2	1753	7.1	76.1	00.9	2	+ 4	- 1
1634	8.8	81.1	99.5	4	+ 4	- 2	1694	9.1	77.3	02.4	2	+ 3	0	1754	9.3	86.1	00.5	2	- 4	+ 2
1635	8.7	77.6	00.4	2	- 3	+ 1	1695	9.3	81.7	99.3	3	- 5	0	1755	9.4	76.5	00.8	3	- 6	+ 1
1636	9.3	77.6	01.3	6	- 7	- 2	1696	9.5	74.1	97.9	3	+ 6	- 3	1756	9.1	80.8	99.8	4	- 2	- 1
1637	9.3	78.4	00.1	4	- 4	- 1	1697	9.1	77.1	02.7	3	- 1	- 3	1757	9.3	80.7	99.3	3	- 1	+ 1
1638†	9.5	94.0	00.1	4	+ 14	+ 7	1698	9.0	81.7	97.4	2	0	+ 2	1758†	8.0	77.8	99.3	3	+ 25	- 21
1639	9.2	80.1	00.0	8	0	- 3	1699	8.1	77.0	99.3	3	+ 4	- 2	1759†	9.5	80.4	00.4	4	- 11	+ 2
1640	9.2	81.1	01.7	4	- 2	+ 2	1700	8.5	79.6	00.3	3	+ 3	- 2	1760	8.9	75.7	00.3	3	0	+ 1
1641	8.5	82.7	99.6	3	+ 3	+ 1	1701	6.9	81.4	02.8	4	0	+ 3	1761	8.9	75.7	00.8	4	0	- 1
1642	9.2	82.0	01.7	4	- 3	+ 4	1702	9.5	78.7	97.4	2	- 6	+ 4	1762	9.4	83.1	97.8	5	+ 8	+ 1
1643	9.4	76.1	00.0	3	- 2	+ 1	1703	7.9	77.8	99.0	4	+ 5	+ 1	1763	9.0	85.8	97.5	5	+ 2	0
1644†	7.8	74.0	00.1	4	+ 2	0	1704	9.4	80.1	97.2	3	- 3	- 3	1764	9.4	80.8	97.7	3	- 1	0
1645	9.4	77.7	01.7	4	+ 2	+ 4	1705	9.2	85.8	99.0	4	- 4	+ 2	1765	8.8	77.7	00.5	2	+ 1	+ 1
1646†	6.0	78.1	99.6	3	+ 6	- 4	1706	9.5	76.1	97.2	3	- 7	+ 1	1766	8.7	86.7	00.5	2	- 4	0
1647	9.2	80.8	01.7	4	- 1	0	1707†	9.5	80.1	97.2	3	- 10	0	1767	9.1	78.1	02.5	2	- 1	+ 2
1648	9.0	75.7	00.7	4	0	- 1	1708	7.5	79.4	02.5	2	+ 6	0	1768	9.4	79.4	97.7	4	- 4	+ 3
1649†	5.2	78.1	00.4	2	+ 2	- 4	1709	8.7	81.1	97.2	3	+ 4	0	1769	9.0	74.4	02.5	2	+ 2	+ 2
1650	9.0	76.4	02.4	2	+ 8	- 8	1710	9.2	74.4	00.9	2	- 4	- 2	1770	9.0	78.7	98.0	4	0	0
1651†	6.5	78.2	01.7	4	+ 6	- 7	1711	9.0	78.5	99.0	4	- 5	- 1	1771	8.5	81.6	98.0	4	+ 1	- 2
1652	8.8	78.4	00.4	2	- 7	- 4	1712	8.5	77.1	02.5	2	- 6	0	1772	8.9	76.7	97.7	4	+ 2	- 2
1653	7.9	79.4	99.6	3	0	+ 3	1713	8.2	74.2	99.0	2	+ 3	0	1773	8.9	75.0	00.5	3	+ 3	- 1
1654	9.0	75.0	00.7	4	- 3	0	1714	8.0	73.8	99.0	2	+ 2	0	1774	9.0	81.1	98.0	4	- 1	+ 2
1655	9.4	83.6	02.7	3	- 3	+ 2	1715	8.1	78.7	97.4	2	+ 2	- 1	1775	9.3	79.7	00.5	2	+ 6	0
1656	8.5	79.4	02.4	2	0	0	1716	9.5	74.1	00.9	2	- 8	+ 2	1776	9.4	84.1	98.0	4	- 5	0
1657	9.5	77.8	00.7	4	- 5	- 1	1717	9.0	86.5	00.5	2	- 2	0	1777	8.9	87.4	00.5	2	- 4	- 4
1658	9.0	79.6	99.0	5	+ 6	0	1718	8.9	79.3	97.4	2	0	- 1	1778	9.5	80.1	97.7	4	- 6	+ 6
1659	9.1	76.6	00.7	5	0	+ 3	1719	6.2	77.4	99.0	2	+ 7	- 2	1779	9.2	81.6	98.0	4	- 3	+ 2
1660	9.5	73.5	00.7	4	- 9	+ 1	1720	6.0	83.1	99.0	2	+ 8	0	1780†	8.9	89.4	98.0	4	+ 6	- 2
1661	9.1	75.3	00.4	2	- 6	- 1	1721	8.9	81.8	94.4	2	+ 4	0	1781	9.0	77.1	02.5	2	0	- 9
1662†	5.8	75.0	00.4	3	+ 6	0	1722	8.1	86.2	00.5	2	+ 2	- 1	1782	8.6	84.6	98.0	4	+ 2	+ 3
1663	9.1	81.2	00.7	5	- 2	+ 1	1723	9.1	78.1	97.4	2	- 1	+ 2	1783	9.0	77.8	02.5	2	0	+ 2
1664	9.3	76.0	00.7	4	0	+ 1	1724	9.1	79.6	99.3	3	+ 6	- 1	1784	8.7	84.1	98.0	4	- 1	- 2
1665	9.1	78.1	00.7	5	+ 2	- 2	1725	9.2	83.0	99.0	2	+ 4	- 2	1785	8.7	81.1	00.5	2	0	0
1666	8.0	83.3	02.4	2	0	- 1	1726	7.8	76.9	02.2	3	+ 1	+ 2	1786	9.0	86.1	02.5	2	+ 4	+ 3
1667	8.8	85.5	02.4	2	+ 9	+ 2	1727	8.2	80.7	02.2	3	0	- 1	1787	7.0	84.1	00.5	2	+ 4	- 4
1668	8.7	74.8	00.4	3	+ 5	- 1	1728	9.5	81.1	01.2	3	- 4	+ 4	1788†	6.7	77.5	97.7	4	+ 8	- 1
1669	8.5	84.6	99.6	3	+ 4	+ 2	1729	8.9	78.7	00.4	4	+ 1	+ 2	1789	9.0	86.6	97.7	4	0	0
1670	7.1	79.8	99.6	3	+ 3	+ 1	1730	9.5	83.6	99.3	3	- 4	0	1790	8.9	80.1	97.7	4	+ 1	+ 1
1671	9.1	75.3	01.5	4	- 3	- 1	1731	9.3	78.9	98.3	3	+ 3	- 2	1791	8.6	79.1	02.3	3	- 2	- 2
1672	8.3	80.1	02.6	5	0	+ 3	1732	9.1	74.3	00.0	4	+ 3	+ 3	1792	9.0	87.6	00.9	3	- 4	- 2
1673	8.4	79.4	99.5	4	+ 2	0	1733	9.5	78.1	99.1	7	- 6	0	1793	7.0	76.5	00.9	3	- 1	+ 4
1674	9.0	77.1	02.2	3	- 6	+ 3	1734	9.3	81.7	02.5	6	0	0	1794	9.5	81.3	98.0	4	- 6	- 2
1675	9.2	77.0	01.7	4	- 8	+ 1	1735	9.4	78.1	99.3	4	+ 6	0	1795	9.3	84.7	02.3	3	- 3	+ 1
1676	9.1	75.8	00.7	4	- 2	0	1736†	9.3	78.1	02.5	2	- 12	- 2	1796	8.7	77.2	97.9	5	0	- 3
1677	9.0	74.6	00.4	3	+ 1	+ 2	1737	9.5	83.8	99.8	5	- 7	+ 3	1797	8.4	74.5	99.7	5	- 1	+ 1
1678	9.4	82.1	00.4	2	+ 8	+ 3	1738	9.2	78.1	03.0	4	+ 2	+ 1	1798	8.7	86.7	02.5	2	+ 8	+ 2
1679	7.3	76.1	00.4	2	+ 2	- 4	1739	8.3	80.8	95.9	2	+ 4	+ 2	1799	9.4	74.5	99.7	5	- 6	0
1680	9.0	79.7	00.4	2	- 2	+ 2	1740	9.0	83.1	02.5	2	+ 8	- 3	1800	9.2	76.1	02.5	2	- 4	+ 1



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
1801	7.5	81.6	97.4	5	+ 7	0	1861	9.2	85.0	96.7	3	- 5	- 1	1921	9.3	91.6	99.0	2	- 4	+ 1
1802†	9.3	81.6	02.7	3	- 5	0	1862	9.4	94.6	02.5	2	- 1	- 2	1922	9.0	83.8	99.0	2	+ 2	- 4
1803	9.0	78.3	00.5	2	+ 4	+ 2	1863	9.1	86.1	98.3	3	- 3	- 1	1923	8.8	78.1	96.0	2	+ 3	- 1
1804†	9.5	85.6	95.2	4	- 14	+ 4	1864	7.8	82.6	02.5	2	- 1	+ 2	1924†	9.4	93.1	99.9	3	- 12	+ 5
1805†	8.6	84.4	02.5	2	+ 15	- 7	1865	8.9	80.5	98.3	3	+ 3	+ 2	1925†	9.1	86.1	97.3	3	+ 1	0
1806	7.0	90.4	96.2	3	+ 2	+ 1	1866	9.2	81.1	98.3	3	- 3	- 2	1926	9.1	76.3	02.5	2	+ 1	0
1807	9.1	77.0	97.1	2	- 5	0	1867†	6.3	82.1	98.3	3	+ 4	- 5	1927†	...	...	...	...	...	...
1808	9.1	88.1	02.5	2	+ 2	- 3	1868†	8.5	88.4	02.3	3	- 16	+ 5	1928	9.2	79.4	99.0	2	0	- 1
1809	9.1	80.1	02.5	2	0	0	1869	9.0	88.1	96.7	3	+ 1	- 4	1929	8.4	80.1	96.0	2	0	- 2
1810	9.0	82.1	95.0	3	- 1	+ 1	1870	8.1	84.4	02.3	3	+ 1	- 6	1930	8.0	77.8	96.5	2	+ 2	+ 2
1811	8.4	90.7	96.2	3	+ 4	+ 2	1871	9.2	78.0	98.0	2	- 2	- 2	1931	9.0	76.4	02.5	2	- 4	- 4
1812	8.3	88.7	96.2	3	+ 1	+ 3	1872	9.3	88.6	98.6	2	+ 6	0	1932	9.0	81.4	98.5	4	+ 1	- 4
1813	8.0	88.1	96.0	4	+ 1	+ 1	1873	9.4	85.6	98.6	2	- 6	0	1933	9.2	79.1	00.0	4	+ 1	0
1814	9.0	90.6	02.5	2	- 8	+ 4	1874	8.3	78.6	98.0	3	+ 1	+ 1	1934†	9.2	84.1	00.0	4	- 3	0
1815	8.5	80.6	02.5	2	- 2	+ 2	1875	9.2	92.1	98.0	2	- 5	+ 3	1935	9.0	75.8	98.5	4	0	0
1816	9.3	93.6	96.2	3	- 1	+ 5	1876†	9.4	88.1	98.6	2	- 10	+ 4	1936	9.5	77.1	02.5	2	- 4	0
1817	9.0	87.0	96.2	3	- 3	+ 1	1877	7.7	86.1	99.1	1	+ 1	- 1	1937†	9.2	77.7	96.5	2	- 5	+ 2
1818	7.7	84.6	96.2	3	+ 3	- 5	1878†	8.3	81.1	98.0	2	- 12	- 2	1938†	9.1	77.8	96.5	2	0	0
1819	8.3	92.7	97.1	2	0	+ 1	1879	9.3	86.1	98.0	2	- 2	+ 1	1939	6.9	75.8	98.7	3	0	- 1
1820	8.0	88.1	96.2	3	+ 1	- 2	1880	9.4	85.1	98.6	2	+ 4	- 2	1940	9.5	87.6	98.8	4	- 6	+ 4
1821†	9.0	72.9	97.1	2	+ 12	- 4	1881	8.8	84.4	98.6	2	- 2	- 4	1941	8.5	86.1	96.5	2	+ 3	0
1822	8.2	82.6	02.5	2	- 4	+ 1	1882	9.0	87.1	98.6	2	+ 4	- 2	1942	9.0	74.4	01.2	3	- 7	0
1823	6.7	84.8	97.1	2	+ 1	- 2	1883	8.0	82.1	98.0	2	+ 3	0	1943	9.0	76.1	03.1	3	0	+ 5
1824	7.0	85.1	97.1	2	+ 3	- 2	1884†	8.3	77.1	02.5	2	- 2	- 12	1944	7.8	78.1	02.3	3	+ 2	0
1825	8.0	80.6	02.5	2	+ 4	+ 1	1885	8.1	89.6	98.0	2	+ 2	+ 3	1945	8.7	80.2	02.3	3	+ 1	- 5
1826	8.9	86.6	97.1	2	- 3	+ 2	1886†	9.4	93.1	98.0	3	- 10	0	1946	8.2	76.1	00.7	3	+ 1	- 1
1827	9.0	84.6	02.5	2	0	0	1887	8.1	86.4	98.0	3	- 2	0	1947	9.4	87.8	98.7	3	+ 3	+ 1
1828†	8.5	93.1	95.5	4	- 13	+ 5	1888	9.1	93.6	98.0	3	+ 1	+ 8	1948	9.4	76.4	02.7	3	- 3	+ 2
1829	7.5	79.5	00.5	2	+ 2	- 2	1889	9.4	91.1	98.6	2	- 7	+ 2	1949	9.5	77.3	00.9	2	0	0
1830	8.0	83.0	97.1	2	0	+ 1	1890	8.6	80.1	98.6	2	0	0	1950	9.4	77.8	96.5	2	- 6	- 3
1831	8.5	83.1	96.5	4	+ 1	- 3	1891	8.5	79.1	97.4	2	+ 1	+ 2	1951	9.4	78.1	00.7	3	- 2	- 3
1832	9.2	91.0	95.5	4	+ 2	- 1	1892	9.2	81.6	98.0	2	0	+ 2	1952	7.3	74.4	00.9	2	+ 4	- 2
1833	9.4	94.1	98.2	5	+ 5	- 2	1893	8.6	87.1	98.5	2	+ 5	+ 1	1953	9.4	75.1	98.7	3	+ 5	- 5
1834	9.1	88.1	96.5	4	- 5	0	1894†	8.0	76.1	97.4	2	+ 10	- 6	1954	8.5	76.1	00.7	3	- 1	- 3
1835	8.4	90.1	00.5	2	- 3	0	1895	9.4	77.1	02.5	2	- 6	+ 8	1955	9.1	76.4	02.7	3	0	+ 3
1836	8.4	91.7	96.5	4	+ 6	0	1896	9.0	82.0	98.0	2	- 8	+ 1	1956	8.9	75.8	97.5	4	+ 1	+ 2
1837	8.6	81.4	00.5	2	- 2	+ 2	1897†	9.2	74.1	97.4	2	+ 6	- 2	1957	8.7	80.5	95.7	3	+ 3	0
1838	8.2	90.1	96.5	4	- 2	0	1898	8.6	85.1	98.0	2	0	+ 1	1958†	7.7	76.1	00.7	3	+ 2	- 1
1839	9.1	87.0	96.2	5	- 4	+ 4	1899	8.5	81.1	98.5	2	+ 4	- 2	1959	9.1	80.1	97.5	4	- 2	- 2
1840	8.3	89.1	02.8	3	+ 4	+ 1	1900	9.2	80.1	96.7	3	- 2	- 1	1960	8.6	78.7	95.7	3	+ 1	- 1
1841	9.0	72.9	97.8	3	- 1	+ 2	1901	8.3	83.1	96.7	3	+ 2	- 2	1961	9.4	76.8	03.1	2	+ 8	- 1
1842	8.5	84.1	96.5	4	+ 8	- 1	1902	7.8	86.1	98.5	2	+ 7	- 1	1962	8.1	80.1	95.7	3	+ 6	- 2
1843	8.5	93.1	00.0	3	- 4	0	1903	8.5	79.4	96.7	3	+ 2	+ 3	1963	8.4	74.4	00.9	2	0	+ 4
1844	8.9	88.1	97.9	2	+ 1	- 2	1904	6.9	81.3	96.7	3	+ 7	- 1	1964	9.1	84.8	00.7	3	- 1	+ 2
1845	9.0	83.1	02.5	2	+ 1	+ 2	1905	9.4	88.1	99.1	1	- 3	- 2	1965	8.4	80.6	96.5	2	+ 2	- 2
1846	8.3	90.1	02.5	2	+ 2	0	1906	7.4	80.1	96.3	3	+ 2	+ 2	1966	7.8	74.1	00.9	2	- 4	0
1847	8.9	93.6	01.4	3	+ 5	+ 1	1907†	9.5	83.6	99.6	3	- 13	+ 1	1967†	8.1	84.6	01.7	3	+ 20	- 7
1848	8.4	82.1	97.9	2	+ 2	- 4	1908	9.5	94.7	01.4	3	+ 5	+ 2	1968	9.3	93.5	00.9	2	+ 1	+ 2
1849	9.0	78.0	00.5	2	0	0	1909	9.5	74.1	02.5	2	- 7	+ 8	1969	8.3	76.1	00.7	3	+ 6	- 3
1850	9.0	93.6	02.5	2	+ 4	+ 1	1910	8.6	79.7	96.7	3	+ 1	0	1970	9.4	79.6	96.5	2	0	+ 1
1851	9.0	83.5	97.1	2	0	- 4	1911	8.2	78.5	98.5	2	+ 5	- 3	1971	8.3	85.1	00.7	3	+ 1	0
1852	9.1	88.6	00.5	2	0	0	1912	8.5	77.4	96.0	2	- 2	0	1972	8.8	75.1	98.7	3	0	- 1
1853	8.0	88.6	96.0	2	+ 6	0	1913	9.2	85.6	00.5	2	- 2	0	1973	9.0	77.1	02.5	2	- 2	+ 2
1854	8.5	85.6	97.0	3	- 3	+ 4	1914	9.5	85.1	00.3	3	- 2	- 4	1974	8.7	80.5	96.5	2	+ 3	- 3
1855	8.5	90.1	97.9	2	0	+ 4	1915	9.5	81.3	99.8	4	- 2	- 2	1975	9.5	76.1	98.7	3	- 3	+ 1
1856	9.0	83.0	97.1	2	+ 1	+ 2	1916	8.6	79.9	99.0	3	+ 2	- 1	1976	9.0	93.1	96.5	2	- 6	+ 3
1857	8.8	94.4	00.5	2	+ 2	+ 3	1917	9.1	77.7	96.0	2	- 4	+ 2	1977	8.0	82.0	96.5	2	0	+ 3
1858	8.7	89.6	00.5	2	+ 3	- 7	1918†	9.5	93.6	99.8	4	+ 15	0	1978	8.4	93.1	96.5	2	- 4	0
1859	8.9	80.1	02.5	2	- 1	0	1919	9.3	74.4	00.9	2	+ 2	0	1979	8.1	76.1	00.4	3	0	- 3
1860	9.0	79.7	97.4	3	- 2	- 1	1920	9.4	79.3	96.5	2	- 4	- 4	1980	8.3	87.9	00.7	5	+ 2	- 1



Cambridge.			Oxford.					Cambridge.			Oxford.					Cambridge.			Oxford.				
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .		No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .		No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	
1981	8.8	93.1	00.5	2	- 2	+ 2		2041	9.0	78.0	96.0	2	0	- 1		2101	9.5	88.8	02.8	3	- 8	+ 5	
1982	8.3	85.6	97.4	3	+ 1	0		2042	8.0	81.1	98.5	4	- 1	+ 2		2102	8.9	80.5	99.4	3	0	+ 2	
1983	9.0	85.1	97.4	3	- 2	0		2043	9.1	74.4	00.5	3	+ 3	0		2103	9.3	87.8	02.6	2	- 5	+ 5	
1984	9.4	80.1	00.7	5	- 6	+ 4		2044	9.0	77.1	96.0	2	0	- 2		2104	7.2	74.7	99.6	2	+ 2	- 1	
1985	9.5	74.4	00.5	2	- 2	+ 3		2045	9.1	86.8	99.1	2	0	- 2		2105	9.5	74.1	99.6	2	- 4	0	
1986	9.0	86.6	97.4	3	+ 7	- 1		2046	9.0	82.1	00.4	3	- 1	0		2106	9.2	79.3	99.6	2	- 2	0	
1987	8.6	76.5	00.8	4	+ 4	+ 2		2047†	5.5	75.4	00.4	3	+ 2	- 7		2107	9.3	87.1	99.1	1	- 6	+ 2	
1988	7.5	86.8	98.8	5	- 1	- 1		2048	8.3	79.7	99.1	2	+ 6	0		2108	9.5	74.1	03.5	3	- 5	- 2	
1989	9.0	75.1	00.5	2	- 2	+ 1		2049	7.7	78.7	96.0	2	+ 2	0		2109	9.0	77.8	99.6	2	+ 2	- 7	
1990	9.0	93.1	02.1	4	- 8	+ 2		2050	9.5	76.3	00.0	2	- 2	+ 2		2110	9.2	75.7	01.7	3	0	+ 4	
1991†	5.1	77.1	02.1	4	+ 9	- 2		2051	7.8	76.1	00.4	3	- 2	- 4		2111†	5.7	78.1	99.6	2	+ 6	+ 2	
1992	9.0	73.5	00.5	2	0	0		2052	9.2	76.1	99.1	2	- 3	0		2112	9.0	76.1	03.5	3	+ 2	+ 1	
1993	7.5	77.2	02.7	3	- 3	+ 1		2053	8.2	75.7	02.1	3	- 1	- 2		2113	9.0	79.4	03.5	3	+ 5	- 3	
1994	8.5	93.1	02.1	4	+ 4	+ 2		2054	7.8	75.6	01.1	2	0	0		2114	9.0	75.3	01.0	2	- 4	- 9	
1995†	8.2	77.8	97.4	3	+ 3	+ 1		2055	9.4	75.6	00.1	6	- 3	+ 5		2115	9.5	77.6	99.7	3	- 7	+ 3	
1996	8.6	76.1	00.4	3	- 6	- 6		2056	8.8	79.8	01.1	6	+ 3	+ 3		2116	9.1	76.1	01.9	4	+ 5	- 2	
1997	8.9	76.5	98.7	3	+ 2	0		2057	8.8	82.1	03.1	3	+ 4	+ 2		2117†	8.9	86.1	01.9	4	- 10	+ 4	
1998	9.5	80.4	00.4	3	- 9	+ 2		2058	9.2	85.3	01.1	2	- 2	+ 1		2118†	8.6	76.1	01.9	4	+ 17	- 6	
1999	7.5	77.7	96.5	2	0	- 4		2059†	5.8	76.3	97.0	3	+ 5	- 4		2119	9.5	88.8	01.9	4	- 6	- 1	
2000	8.5	79.8	01.5	4	+ 8	- 2		2060†	8.8	76.6	97.0	3	- 1	+ 5		2120	9.3	81.1	03.5	3	- 8	+ 2	
2001	8.8	79.3	00.9	3	+ 3	- 5		2061	8.3	78.3	99.1	3	+ 4	+ 5		2121	9.0	79.5	00.4	3	+ 4	+ 1	
2002	8.5	86.8	03.0	2	0	+ 4		2062	8.7	90.1	99.1	3	+ 1	- 3		2122	7.7	87.6	02.6	2	+ 2	- 4	
2003	8.5	76.5	98.7	3	0	+ 5		2063	8.3	75.7	99.6	4	+ 3	+ 3		2123	7.4	79.1	03.5	3	+ 1	+ 1	
2004	9.4	83.1	00.4	3	- 4	- 5		2064	9.2	77.4	99.1	2	- 8	+ 2		2124	7.3	87.6	99.6	2	+ 2	0	
2005	8.6	86.8	03.0	2	- 2	+ 7		2065†	8.0	76.1	01.1	4	+ 3	- 10		2125	8.4	87.1	02.6	2	- 1	+ 2	
2006	9.3	86.8	96.0	3	0	- 2		2066	8.9	82.4	99.1	2	- 2	+ 2		2126	8.7	89.1	02.6	2	- 6	+ 4	
2007	8.8	77.5	96.0	3	- 3	- 1		2067	9.3	83.6	01.1	2	+ 9	- 1		2127	8.7	76.6	01.0	2	- 4	+ 2	
2008†	6.3	75.8	97.5	4	+ 2	- 3		2068	8.7	74.8	01.1	2	- 6	0		2128	8.4	76.7	99.6	2	0	0	
2009	8.7	75.1	98.7	3	+ 3	- 3		2069	8.3	77.1	99.1	2	+ 2	0		2129†	7.0	76.1	02.1	6	+ 6	- 4	
2010†	8.2	76.3	02.5	2	+ 14	- 13		2070	9.0	82.2	03.1	2	- 8	+ 2		2130	9.1	80.8	01.4	7	0	+ 2	
2011	8.6	83.7	98.7	3	+ 3	+ 4		2071	9.3	87.8	96.0	2	- 4	0		2131	9.3	79.1	99.6	2	+ 2	- 4	
2012	8.5	76.9	96.5	2	0	0		2072	9.1	80.1	03.1	2	- 2	0		2132	8.8	79.8	00.4	4	- 4	+ 2	
2013	9.4	77.1	03.0	2	- 7	+ 1		2073	8.6	75.8	01.1	2	+ 2	- 2		2133	6.3	76.9	99.6	2	+ 3	+ 1	
2014	9.0	80.6	03.0	2	- 4	+ 3		2074	7.7	75.3	96.0	2	+ 4	- 2		2134	8.3	77.1	99.6	2	+ 2	+ 2	
2015	9.0	74.4	00.5	2	+ 5	+ 4		2075†	9.5	93.6	96.0	2	- 11	+ 1		2135	6.5	80.1	01.3	3	+ 5	- 3	
2016	8.5	77.3	96.5	2	0	0		2076	8.0	80.5	01.1	2	+ 1	+ 2		2136	9.3	88.1	00.1	5	- 3	+ 4	
2017	9.1	76.5	98.7	3	- 1	0		2077	8.9	80.8	01.1	2	- 6	0		2137	7.2	83.7	02.4	3	+ 4	+ 2	
2018	8.8	80.6	00.5	2	+ 5	+ 2		2078†	9.5	74.1	01.8	3	- 10	- 1		2138	8.9	83.3	01.3	3	+ 1	- 2	
2019	8.6	74.4	00.0	3	+ 1	- 1		2079	9.5	74.1	02.1	3	0	- 2		2139	9.3	90.6	01.1	5	0	- 2	
2020†	9.4	82.3	01.5	5	- 7	+ 4		2080	9.0	78.3	99.6	2	0	- 2		2140	9.0	83.3	00.4	3	- 2	+ 2	
2021	9.3	84.1	00.2	6	- 4	+ 6		2081	8.9	76.1	02.1	3	+ 1	+ 1		2141	9.0	88.6	01.0	2	- 6	+ 2	
2022	8.4	76.1	00.7	5	+ 9	+ 1		2082	8.8	86.7	99.1	1	- 5	- 4		2142	8.3	82.6	99.6	2	+ 2	0	
2023†	7.6	76.9	99.5	7	- 4	- 7		2083	9.4	76.1	99.5	2	+ 3	0		2143†	5.0	84.6	99.6	2	+ 4	0	
2024	9.1	76.5	97.8	4	- 1	+ 1		2084	7.0	76.1	01.8	3	- 1	- 1		2144	9.1	89.1	00.4	3	+ 2	+ 2	
2025†	7.0	76.4	02.5	2	- 17	+ 18		2085†	6.0	82.2	03.1	2	+ 5	- 2		2145	8.7	80.8	99.6	2	- 2	+ 4	
2026†	9.5	80.1	03.0	2	- 11	+ 5		2086†	8.5	77.1	03.1	2	+ 1	- 1		2146	8.9	80.3	00.3	5	+ 2	+ 1	
2027†	9.5	77.1	02.6	3	- 10	+ 2		2087	9.5	76.8	02.1	3	- 5	+ 1		2147	8.9	79.8	99.6	2	- 1	+ 2	
2028	9.4	78.0	96.5	2	- 2	- 1		2088	6.5	81.1	01.8	3	0	+ 1		2148	9.4	89.1	00.3	4	+ 1	+ 1	
2029	9.5	78.1	02.6	3	- 6	+ 6		2089	9.5	74.7	99.5	2	- 1	0		2149	8.5	81.4	00.1	5	+ 3	+ 2	
2030	7.3	79.7	02.5	2	+ 4	- 8		2090	9.0	76.1	02.9	5	+ 2	0		2150†	8.0	81.1	00.3	4	+ 7	- 12	
2031	9.0	80.7	02.5	2	0	- 8		2091	8.7	76.4	02.3	6	- 3	0		2151	9.2	87.6	02.6	2	- 4	+ 1	
2032	9.5	74.1	01.4	3	- 3	+ 1		2092†	9.0	75.3	03.1	2	- 10	- 6		2152	9.1	88.1	02.6	2	- 2	- 1	
2033	9.0	77.4	96.5	2	0	0		2093	8.5	83.4	99.6	2	- 2	- 4		2153	9.1	88.6	99.1	2	- 8	+ 2	
2034	8.1	78.7	98.7	3	+ 3	+ 1		2094	6.5	83.4	02.7	5	+ 4	+ 3		2154	9.2	78.5	00.5	4	- 6	- 6	
2035	9.4	77.1	03.0	2	- 7	+ 4		2095	9.5	77.6	03.1	2	- 4	+ 6		2155	9.5	79.9	00.3	4	- 7	+ 1	
2036†	9.5	79.7	03.1	3	- 13	+ 4		2096	9.2	75.8	03.1	2	- 2	0		2156	8.5	88.4	02.4	2	- 4	+ 2	
2037	9.2	74.4	01.1	2	- 3	+ 5		2097	9.5	78.4	02.8	3	- 3	0		2157	7.0	79.6	00.7	3	+ 5	+ 1	
2038	8.7	76.1	00.4	3	+ 5	- 1		2098	8.2	87.1	99.1	1	0	- 2		2158	9.0	79.4	00.6	6	- 8	+ 3	
2039	9.1	76.5	97.3	4	+ 2	+ 1		2099	8.3	78.1	01.7	3	+ 1	+ 2		2159	8.5	79.1	00.7	3	+ 2	+ 1	
2040	8.7	76.3	95.3	3	0	+ 1		2100	9.0	74.7	99.5	2	0	+ 2		2160	7.5	74.7	99.1	3	+ 6	- 2	



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
2161	9.3	76.1	02.4	2	- 4	0	2221	9.0	74.8	99.6	2	+ 2	+ 2	2281	7.8	93.1	02.0	3	- 2	+ 3
2162	9.2	74.8	01.6	3	+ 2	- 1	2222	8.2	77.6	01.4	3	0	- 1	2282	9.5	88.1	99.1	2	+ 4	+ 7
2163†	9.2	87.1	01.6	3	+ 27	+ 4	2223	7.5	76.1	01.9	4	+ 1	+ 1	2283	8.9	79.4	01.1	3	+ 2	+ 4
2164	8.4	79.8	00.6	6	+ 2	0	2224	7.0	78.4	03.2	2	+ 4	- 1	2284	7.7	76.4	01.1	3	+ 3	0
2165	9.0	78.6	00.7	3	+ 2	+ 3	2225	8.8	80.4	02.4	3	+ 1	- 2	2285	9.2	82.7	02.6	4	- 6	+ 4
2166	9.4	84.8	01.6	3	- 9	+ 3	2226	9.0	86.1	01.6	2	+ 2	0	2286	9.0	94.8	02.6	4	- 4	- 2
2167	9.0	82.1	00.8	8	0	+ 1	2227	8.8	79.7	01.4	3	0	- 1	2287	9.0	80.1	01.1	3	+ 1	+ 1
2168	9.1	78.9	00.1	4	+ 3	0	2228	9.0	75.6	99.6	2	+ 4	+ 2	2288	6.5	78.8	00.6	4	+ 5	+ 1
2169	8.8	78.1	02.3	3	- 3	+ 4	2229	8.9	78.1	99.6	2	0	- 4	2289	9.2	90.4	03.5	2	- 7	+ 5
2170†	9.2	78.1	00.1	4	+ 2	- 5	2230	9.2	76.3	02.1	3	- 5	+ 2	2290	8.0	76.8	02.0	3	+ 4	- 2
2171	9.3	78.6	00.7	3	- 4	+ 3	2231	9.5	86.6	99.6	2	- 8	+ 4	2291	9.4	75.6	02.3	4	- 2	- 4
2172	6.4	79.4	01.1	4	+ 4	- 3	2232†	8.6	80.1	02.4	3	+ 4	- 6	2292	8.4	79.8	00.6	4	- 1	- 1
2173	8.6	77.6	99.1	2	- 4	+ 1	2233	7.7	76.8	02.1	3	+ 5	0	2293†	9.2	75.6	02.2	6	- 14	- 2
2174	9.5	77.8	00.4	3	- 7	- 1	2234	8.8	77.1	01.6	2	+ 2	0	2294	8.5	76.1	02.5	4	0	- 2
2175	6.7	75.4	02.3	3	+ 5	- 2	2235†	9.5	94.4	02.4	3	- 12	+ 7	2295	9.1	80.1	01.6	4	+ 1	+ 1
2176	7.8	75.1	00.4	3	+ 3	0	2236	9.1	82.1	03.2	2	- 4	- 2	2296	9.5	74.1	02.2	6	+ 5	- 1
2177	9.5	81.1	00.4	3	- 4	+ 5	2237	9.0	76.7	01.1	4	+ 3	- 2	2297†	9.5	81.1	00.6	4	- 11	- 4
2178	8.6	86.8	00.7	3	+ 4	0	2238	8.3	80.4	01.6	2	- 6	+ 2	2298	8.3	82.9	01.1	3	+ 2	+ 2
2179	9.3	87.1	00.7	3	- 4	+ 2	2239	9.2	76.1	01.9	4	- 2	- 2	2299	9.2	84.1	02.3	4	0	0
2180	7.6	75.8	00.4	3	+ 3	- 2	2240†	9.5	81.1	02.1	3	- 19	- 2	2300	8.9	87.1	02.6	5	- 5	+ 5
2181	7.0	76.3	98.3	3	+ 3	- 3	2241†	6.0	88.1	02.1	2	+ 4	- 4	2301	9.2	85.4	01.6	5	- 4	+ 1
2182	7.2	86.6	00.7	3	+ 4	- 1	2242†	8.4	78.4	01.1	5	+ 7	+ 8	2302	8.0	79.9	01.1	3	- 4	- 3
2183	9.0	79.1	02.0	4	+ 3	+ 3	2243	7.0	78.6	02.1	3	+ 1	- 1	2303	8.4	80.1	01.6	5	+ 2	- 1
2184	9.3	88.1	00.0	4	- 9	0	2244	9.0	74.1	01.3	4	+ 1	- 13	2304	9.5	88.0	01.1	3	- 5	- 1
2185	8.7	84.6	00.0	4	- 1	+ 2	2245	9.0	79.3	01.6	2	- 3	+ 1	2305	7.0	79.1	00.7	3	+ 2	+ 3
2186	8.0	86.1	00.0	4	- 2	- 2	2246†	9.5	93.6	01.1	3	- 12	+ 4	2306	9.1	89.1	99.1	2	- 1	+ 4
2187	8.9	75.6	02.0	4	- 4	+ 2	2247	8.7	78.8	01.1	3	+ 1	0	2307	9.3	90.1	99.1	1	- 7	+ 3
2188	8.4	80.8	00.8	5	+ 1	- 1	2248	8.1	82.8	01.1	3	0	- 7	2308†	8.9	76.3	02.0	3	+ 8	- 11
2189	9.1	74.7	99.4	3	+ 1	0	2249	8.5	75.1	02.5	3	+ 3	- 4	2309	8.6	79.1	02.0	3	+ 2	- 1
2190	7.6	78.1	00.7	3	+ 4	0	2250†	9.0	77.1	03.6	4	- 11	+ 2	2310	9.0	78.8	01.1	3	- 2	+ 1
2191	9.3	75.9	02.0	3	- 1	+ 2	2251†	7.2	79.8	03.6	4	+ 14	- 2	2311	8.7	83.4	01.3	4	0	+ 3
2192	8.1	78.4	00.7	3	+ 2	+ 1	2252	9.1	80.1	01.6	2	- 3	+ 5	2312	6.5	83.8	02.0	3	+ 4	0
2193	8.9	83.6	00.7	3	+ 7	- 2	2253	9.4	76.1	03.4	3	0	+ 3	2313	8.6	84.5	01.3	4	+ 1	+ 1
2194	9.0	74.7	99.5	2	+ 4	0	2254†	8.8	74.1	02.3	4	+ 22	- 11	2314	9.4	82.3	03.5	2	- 8	+ 2
2195	9.0	75.1	00.7	3	0	+ 2	2255	8.4	87.4	01.1	3	+ 1	- 1	2315†	5.5	79.7	01.1	5	+ 6	- 2
2196	8.5	82.6	00.7	3	+ 1	+ 1	2256	9.0	79.2	01.6	2	- 1	0	2316†	8.5	77.1	01.1	5	+ 4	- 3
2197	9.4	75.1	00.7	3	- 1	+ 1	2257†	9.4	85.4	02.1	2	- 11	+ 2	2317	9.0	80.1	00.6	4	+ 2	+ 1
2198	9.4	80.1	03.0	2	0	+ 4	2258	8.4	76.7	01.6	2	- 2	0	2318	9.4	84.1	03.5	2	- 7	+ 6
2199	9.4	74.7	99.5	2	- 3	- 1	2259	9.4	93.6	02.1	3	+ 2	+ 5	2319†	9.3	87.1	02.7	3	- 45	- 2
2200	8.8	84.7	00.7	3	- 6	+ 2	2260	9.0	86.1	01.6	2	+ 4	+ 1	2320	9.1	87.6	01.1	5	- 6	+ 5
2201	6.0	79.8	00.4	3	+ 8	- 2	2261	7.8	82.1	02.5	3	- 3	- 3	2321†	8.9	93.1	01.1	5	0	+ 3
2202	8.8	79.8	00.4	3	- 3	- 2	2262	8.4	89.6	01.6	2	- 1	+ 4	2322†	7.3	83.9	01.1	5	+ 13	- 3
2203	8.2	79.8	02.0	4	+ 4	- 2	2263	8.8	80.7	00.6	4	0	- 7	2323	9.0	76.1	01.1	5	+ 4	+ 1
2204	7.3	75.1	00.7	3	+ 4	- 2	2264	7.2	82.5	02.3	5	- 1	0	2324	9.0	76.1	01.1	5	+ 4	+ 1
2205	9.0	77.1	02.0	3	+ 2	- 1	2265	8.8	80.8	02.3	5	+ 1	0	2325	9.3	80.4	00.6	4	- 1	- 8
2206	8.7	86.1	99.1	1	- 1	- 3	2266	8.0	91.4	02.1	3	- 5	+ 3	2326	9.0	87.1	01.0	3	- 6	+ 2
2207†	9.5	79.4	03.1	3	- 11	- 3	2267	8.8	86.4	01.6	2	- 3	+ 4	2327	9.1	79.8	02.0	3	- 3	- 1
2208	7.5	74.7	00.8	4	+ 1	- 1	2268	9.0	77.1	01.5	4	- 3	- 2	2328	8.3	83.0	00.7	3	0	- 2
2209	8.9	81.1	01.6	4	- 2	+ 1	2269	8.7	81.3	00.6	4	+ 1	0	2329	9.5	82.6	03.5	2	- 2	0
2210	9.3	84.1	99.6	2	+ 1	+ 2	2270	8.5	81.8	99.1	2	+ 3	0	2330†	8.3	80.6	00.6	4	0	- 15
2211	9.3	78.1	02.1	5	+ 4	- 3	2271	8.0	88.1	99.1	1	+ 3	- 5	2331	8.6	93.1	03.5	2	- 2	+ 2
2212	8.7	83.4	99.6	2	+ 6	- 1	2272	8.5	77.1	02.0	3	+ 3	- 4	2332	8.3	77.1	02.0	3	+ 1	- 2
2213	9.4	93.4	00.8	4	+ 8	+ 4	2273	6.5	91.4	03.5	2	+ 7	- 2	2333	8.8	87.6	01.0	3	- 2	0
2214	9.1	80.1	00.8	4	- 7	+ 2	2274	9.0	94.1	02.3	4	+ 7	+ 2	2334†	9.1	88.1	01.1	3	+ 44	0
2215	8.9	76.5	02.1	5	0	+ 4	2275	8.0	89.1	02.0	3	- 1	+ 3	2335	7.0	76.1	02.0	3	+ 1	- 3
2216	9.2	88.8	00.8	4	- 7	+ 1	2276	8.8	92.1	03.5	2	- 1	+ 2	2336	9.4	84.3	02.0	3	- 5	+ 3
2217†	9.4	81.1	03.2	2	- 10	- 1	2277	9.3	80.1	01.9	5	+ 1	- 8	2337	8.1	83.4	00.7	3	- 2	0
2218	9.4	82.1	03.2	2	0	+ 6	2278	6.5	92.1	02.6	4	+ 5	0	2338	6.5	80.1	00.6	4	+ 1	- 3
2219	8.8	80.3	01.6	2	- 3	0	2279	8.9	94.1	02.3	4	+ 2	- 1	2339	9.5	74.1	04.1	2	- 8	+ 2
2220	9.1	84.6	01.6	2	- 1	- 2	2280	9.0	94.1	02.0	3	0	+ 3	2340	9.1	80.1	03.4	3	- 2	+ 4



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
2341	9.0	83.6	00.6	4	- 2	+ 4	2401	8.4	76.8	00.3	6	+ 1	0	2461	8.7	91.1	02.3	5	- 3	+ 2
2342	8.7	93.1	03.4	3	+ 5	+ 1	2402	8.7	78.6	99.1	2	- 1	0	2462†	6.2	80.6	03.4	2	+ 4	+ 1
2343	8.9	87.9	03.2	2	- 4	0	2403†	9.5	96.1	99.1	3	+ 6	0	2463	9.1	83.1	03.4	2	0	+ 3
2344†	7.0	76.1	00.5	3	+ 1	- 6	2404	9.5	82.9	99.1	3	- 9	+ 2	2464	7.9	81.8	01.9	5	0	- 2
2345	8.7	77.1	97.6	2	+ 2	+ 2	2405	9.2	76.1	02.6	2	- 1	+ 2	2465	9.5	84.2	00.4	4	- 7	- 3
2346	9.5	78.6	01.0	3	- 9	+ 4	2406	8.7	80.6	97.6	2	+ 4	0	2466	8.0	91.1	99.6	2	+ 2	0
2347	8.9	78.8	00.5	3	- 3	+ 1	2407	9.4	76.8	99.0	2	- 1	0	2467	8.9	82.4	02.1	3	0	0
2348	8.4	77.4	00.5	3	0	- 2	2408	9.0	82.1	97.6	2	+ 2	- 2	2468	8.9	78.1	02.9	5	+ 1	0
2349	9.0	78.1	99.7	2	+ 6	+ 1	2409	8.6	75.4	00.8	3	+ 2	+ 2	2469	9.2	75.1	96.6	2	0	0
2350	9.1	82.1	00.5	3	- 6	+ 1	2410†	9.0	86.4	01.4	3	0	- 1	2470	9.1	87.8	96.6	2	- 1	+ 4
2351	9.3	81.6	01.0	3	- 2	+ 2	2411	9.0	77.4	00.6	4	+ 5	- 4	2471	9.0	79.6	97.5	3	+ 1	0
2352	8.9	79.1	99.7	2	0	+ 2	2412	8.4	78.9	02.6	2	0	+ 2	2472†	5.5	78.1	02.1	3	+ 6	- 2
2353	8.9	78.1	99.7	2	- 2	+ 3	2413	7.9	82.1	01.4	3	+ 2	0	2473	8.7	76.1	01.8	3	+ 4	- 1
2354	9.2	78.1	00.5	3	- 4	- 1	2414	9.0	79.9	99.1	5	- 2	+ 1	2474	7.0	75.6	99.5	3	+ 8	- 4
2355	8.7	82.4	00.6	4	+ 2	0	2415	8.4	77.1	97.1	3	- 4	+ 1	2475	9.5	81.6	97.5	3	- 8	+ 2
2356	9.0	82.3	00.6	4	- 2	0	2416	9.2	77.1	01.1	3	+ 1	0	2476	8.3	75.9	01.6	4	+ 2	0
2357	9.0	88.1	00.8	3	- 7	+ 3	2417†	6.5	82.1	01.1	3	+ 5	+ 2	2477	9.0	80.8	00.7	5	- 5	0
2358	8.9	79.9	97.6	2	+ 5	0	2418	8.5	78.8	01.4	3	+ 4	+ 1	2478	8.7	82.1	99.5	3	- 2	+ 4
2359	8.5	86.4	02.0	2	0	0	2419	9.0	81.9	99.1	5	- 1	0	2479†	7.3	77.1	99.4	4	+ 2	+ 1
2360†	9.4	80.5	97.6	2	- 10	+ 1	2420†	6.0	76.8	98.1	3	+ 4	- 2	2480†	9.5	78.1	02.3	4	- 10	+ 5
2361	8.5	81.5	00.8	3	+ 1	+ 2	2421	9.0	79.9	01.1	3	+ 2	- 2	2481	9.1	76.1	01.8	3	+ 1	0
2362	9.0	78.1	99.7	2	0	0	2422	9.1	76.1	99.1	2	- 4	- 2	2482	8.8	75.1	02.5	6	+ 1	+ 1
2363	7.5	79.7	00.6	4	+ 5	+ 2	2423	8.8	79.1	00.1	5	- 1	+ 2	2483	8.1	79.0	01.6	4	+ 4	- 1
2364	9.0	77.6	99.7	2	+ 6	- 2	2424	8.9	76.8	99.1	2	+ 3	- 1	2484	9.3	79.6	03.1	2	0	+ 2
2365	9.1	81.5	99.7	2	- 5	0	2425	8.8	77.1	99.9	4	+ 3	- 1	2485	8.5	75.1	01.6	4	+ 4	+ 1
2366	8.9	81.4	03.2	2	- 3	+ 2	2426	8.8	77.6	97.6	2	+ 2	- 1	2486	9.1	77.8	01.1	2	- 5	+ 3
2367	9.0	90.1	02.0	2	- 6	+ 2	2427†	8.6	79.6	97.6	2	+ 4	- 4	2487	7.4	76.1	01.8	3	+ 7	- 4
2368	9.0	75.6	01.0	3	- 1	- 1	2428	7.5	79.1	99.1	2	+ 2	+ 2	2488	9.2	77.4	02.7	3	- 1	- 1
2369	8.9	81.4	99.7	2	- 2	- 1	2429	8.1	82.1	99.1	3	+ 2	+ 3	2489	8.5	74.1	01.1	2	0	0
2370†	...	...	...	...	...	...	2430	9.4	85.1	99.1	3	- 7	+ 2	2490	8.6	79.6	99.8	3	+ 3	+ 1
2371	9.1	88.5	00.8	3	- 2	+ 2	2431	9.1	78.6	00.6	4	0	- 1	2491†	9.5	81.5	01.8	3	- 17	+ 2
2372	9.0	76.4	00.1	4	+ 2	- 5	2432	7.3	80.7	97.6	2	- 2	- 2	2492	7.7	80.7	02.7	3	+ 3	+ 1
2373	8.8	87.8	02.0	2	0	+ 2	2433†	9.4	82.8	02.9	2	- 12	+ 2	2493	9.5	75.1	01.8	3	- 6	- 2
2374	7.3	78.8	01.0	3	+ 5	+ 2	2434†	9.5	93.1	00.1	5	- 20	+ 4	2494	7.9	77.1	01.1	2	0	- 2
2375	8.4	83.1	01.0	3	+ 5	0	2435†	7.0	89.4	97.6	2	+ 6	+ 2	2495	8.9	88.1	04.1	2	0	- 1
2376	8.8	76.4	99.7	2	+ 2	- 2	2436	8.4	88.5	99.1	2	- 2	0	2496	8.8	86.2	04.1	2	+ 4	+ 2
2377	8.8	80.5	97.6	2	- 2	0	2437	9.0	83.4	02.9	2	- 2	+ 2	2497	8.6	87.6	01.1	2	+ 1	- 5
2378	9.0	82.8	99.7	3	- 1	- 2	2438	9.0	78.1	99.1	2	+ 2	0	2498	7.2	75.1	02.7	3	+ 3	- 3
2379	9.1	89.4	00.4	3	- 5	+ 2	2439	8.2	87.6	02.5	2	+ 4	0	2499	8.7	79.8	02.7	3	+ 5	+ 1
2380	9.0	76.8	00.4	3	0	+ 2	2440	9.0	82.6	02.9	2	- 3	+ 6	2500	9.0	85.1	02.7	3	- 1	+ 1
2381	9.1	88.8	00.4	3	- 5	- 1	2441	9.3	91.1	99.1	2	- 4	+ 2	2501	8.2	79.5	02.7	3	+ 5	+ 2
2382	8.6	76.4	00.1	4	+ 9	+ 1	2442	9.1	89.1	99.1	2	- 2	+ 4	2502	8.5	80.1	98.1	2	+ 6	- 4
2383	9.2	89.4	01.0	3	- 5	0	2443	9.0	81.1	97.6	2	- 1	- 1	2503	8.0	77.1	02.8	3	+ 2	- 2
2384	8.3	78.8	99.5	5	+ 2	0	2444	9.3	84.1	99.1	2	0	- 6	2504	9.0	88.5	01.8	3	- 1	0
2385	9.0	84.1	98.1	3	0	+ 3	2445	8.5	83.0	00.6	3	- 3	+ 2	2505	9.3	76.3	01.1	2	+ 1	0
2386	9.5	81.1	00.4	3	- 2	- 1	2446	8.4	80.1	99.1	2	+ 2	- 4	2506	9.0	89.1	03.3	5	- 7	0
2387†	9.5	83.2	98.1	3	- 25	- 3	2447	8.4	93.1	99.1	2	+ 4	- 1	2507†	9.5	86.1	03.3	5	- 12	0
2388	8.8	81.4	00.1	4	+ 6	0	2448	8.9	82.1	01.4	6	0	0	2508	9.0	75.1	03.3	5	- 3	- 1
2389	8.9	87.1	01.0	3	- 4	- 1	2449	9.5	84.1	02.5	2	- 7	+ 6	2509	9.0	83.5	03.3	5	- 3	- 1
2390	6.5	81.4	98.1	3	+ 6	- 2	2450	9.0	88.1	02.9	3	- 4	+ 3	2510†	9.2	82.1	03.3	5	- 10	+ 3
2391	9.0	81.6	00.4	3	- 6	- 1	2451	8.0	83.6	00.4	3	+ 3	- 1	2511	8.0	75.4	02.7	5	+ 3	- 1
2392	8.7	79.7	00.4	3	+ 2	+ 2	2452	8.0	83.1	02.3	5	+ 2	0	2512	8.9	82.6	98.1	2	+ 3	+ 4
2393	8.9	79.1	03.5	7	- 2	+ 2	2453†	2.0	Fund.	96.6	2	+ 8	- 12	2513	9.2	89.5	01.1	2	- 4	+ 3
2394†	9.5	83.6	02.6	4	- 13	- 2	2454	9.0	84.1	96.6	2	- 8	+ 2	2514	9.4	83.1	98.1	2	- 5	- 1
2395	9.1	77.1	09.9	1	+ 1	- 4	2455	7.0	92.2	03.4	2	+ 2	+ 1	2515	7.7	79.4	03.3	5	+ 4	0
2396	7.3	78.8	97.6	2	0	- 2	2456	9.0	82.1	02.1	5	- 6	0	2516	9.3	80.8	02.7	5	- 2	+ 3
2397	9.2	75.1	97.6	2	- 4	- 1	2457	9.0	82.1	03.4	2	0	+ 4	2517	7.9	78.5	02.7	5	0	+ 1
2398	9.2	74.8	02.6	2	- 5	+ 3	2458	8.9	83.6	96.6	2	0	+ 2	2518†	9.2	77.1	01.8	3	- 3	- 8
2399	8.9	77.1	99.0	2	- 2	0	2459	8.5	82.6	02.3	5	- 2	- 1	2519†	9.3	83.1	00.7	4	- 13	- 3
2400	8.8	78.4	97.6	2	+ 1	0	2460†	8.2	90.1	03.3	4	+ 1	+ 2	2520	9.1	87.1	04.1	4	- 6	- 2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
2521	8.1	81.1	02.9	7	+ 3	- 4	2581	7.5	78.4	01.8	3	+ 1	+ 2	2641	8.5	88.5	01.8	4	- 2	+ 1
2522	8.1	82.1	02.3	8	+ 8	+ 1	2582	8.4	82.1	03.7	4	+ 2	- 2	2642	8.8	84.1	99.4	3	- 1	+ 3
2523	9.0	77.1	01.8	3	+ 2	+ 2	2583	9.0	87.5	01.6	6	0	- 1	2643	8.2	80.4	01.8	3	+ 4	- 1
2524	8.5	77.1	03.3	5	+ 3	0	2584	8.4	81.6	03.7	4	+ 5	- 1	2644	8.9	81.4	01.8	4	+ 4	+ 4
2525	9.5	83.1	03.1	3	- 5	- 3	2585	8.9	76.1	01.2	2	+ 3	- 4	2645	7.8	76.1	02.0	3	- 3	+ 6
2526	8.0	78.8	03.3	5	+ 5	- 9	2586	9.0	76.4	02.9	4	+ 3	- 6	2646	8.8	80.4	99.4	3	- 1	0
2527	8.8	81.5	01.9	4	+ 4	0	2587	8.5	78.4	02.9	4	+ 3	- 1	2647	9.2	78.6	01.8	4	- 4	+ 1
2528	9.5	76.1	01.8	3	- 1	- 2	2588	9.5	83.1	02.8	5	0	- 2	2648	9.2	89.1	99.6	4	- 2	0
2529†	9.5	80.2	03.1	3	- 12	+ 3	2589†	9.4	80.1	01.8	3	- 11	+ 2	2649	7.5	76.8	97.5	2	- 6	0
2530	8.9	79.2	03.7	4	+ 1	+ 1	2590	9.4	83.1	03.7	4	- 8	- 3	2650	9.0	79.9	97.5	2	+ 1	+ 2
2531	9.1	88.6	02.7	3	- 2	+ 5	2591	9.0	77.5	01.6	6	+ 1	- 3	2651	8.9	78.8	99.4	3	+ 2	0
2532†	9.2	87.1	03.7	4	- 10	0	2592	8.6	79.8	03.0	6	+ 1	+ 1	2652	9.0	85.4	99.6	2	- 1	+ 2
2533	7.8	79.1	02.7	3	+ 4	0	2593	7.0	81.6	01.2	2	+ 2	- 1	2653	8.1	81.1	00.8	3	+ 1	+ 3
2534	8.6	89.2	02.7	3	0	0	2594	7.5	76.6	01.2	2	+ 4	- 4	2654	9.5	79.4	99.4	3	- 9	0
2535	8.9	80.4	02.7	3	+ 2	- 4	2595	8.7	78.8	03.7	4	+ 2	+ 3	2655	9.1	88.7	99.6	2	0	- 2
2536	9.0	85.8	02.7	3	+ 4	- 1	2596	9.3	80.1	03.7	4	- 4	- 3	2656	9.0	75.7	01.8	4	+ 3	+ 3
2537	7.1	79.8	03.7	4	+ 3	- 4	2597	8.0	82.2	01.8	3	+ 3	- 3	2657	7.9	89.2	02.0	2	+ 3	0
2538	9.1	88.5	04.1	2	- 3	+ 3	2598	8.0	77.6	01.3	5	+ 1	+ 5	2658	8.2	86.5	99.6	2	- 2	0
2539	9.0	83.2	03.3	5	+ 4	- 5	2599	9.1	81.6	01.5	6	0	+ 5	2659	8.2	75.7	01.8	4	+ 2	0
2540	8.4	79.6	02.8	3	+ 3	+ 1	2600†	8.5	78.4	02.6	6	+ 4	- 1	2660	7.4	79.9	99.4	3	+ 5	0
2541	9.2	91.2	02.8	3	- 8	- 3	2601	8.9	78.6	01.2	2	0	0	2661	8.3	77.5	99.6	2	+ 1	+ 1
2542	8.2	80.1	02.8	3	+ 3	+ 3	2602	9.3	76.1	02.6	6	- 1	+ 7	2662†	9.2	78.6	01.1	2	- 3	- 4
2543	9.1	84.1	02.2	4	- 2	+ 2	2603	8.7	80.2	01.2	2	- 4	+ 3	2663	8.0	88.5	02.0	2	- 2	- 2
2544	6.6	84.6	02.7	3	+ 6	0	2604	9.0	83.9	01.3	5	+ 2	- 7	2664†	9.4	83.1	01.8	4	- 10	- 6
2545	8.5	84.4	02.7	3	- 2	+ 3	2605	8.8	78.6	01.2	2	+ 3	0	2665	7.5	76.1	01.1	2	0	- 4
2546	8.5	83.6	03.7	4	+ 6	+ 2	2606	8.5	79.8	01.3	5	0	- 1	2666	8.5	88.1	03.4	2	+ 2	+ 2
2547	8.8	85.1	04.6	2	0	0	2607	9.0	83.6	01.8	3	+ 1	- 3	2667	8.6	79.8	99.6	2	+ 2	0
2548	8.8	80.5	01.2	2	0	0	2608	9.0	79.8	02.1	9	- 1	0	2668	9.1	81.8	97.5	2	- 2	+ 1
2549	9.3	85.6	03.3	5	- 2	+ 1	2609†	9.0	79.4	01.8	3	+ 10	- 7	2669	9.0	77.1	99.1	4	- 2	0
2550†	9.1	89.1	01.8	3	+ 46	- 2	2610	8.4	82.9	01.9	5	+ 1	+ 2	2670	8.5	75.5	01.1	5	+ 3	+ 2
2551†	6.7	81.5	02.8	3	+ 7	+ 1	2611	9.1	85.2	01.2	2	+ 4	+ 2	2671	8.9	84.1	97.5	2	+ 6	0
2552	9.3	82.6	03.7	4	- 8	+ 1	2612	8.6	81.1	01.3	5	+ 1	+ 2	2672	8.0	84.4	01.1	5	+ 7	+ 1
2553	9.2	91.2	04.1	6	- 8	0	2613	9.0	79.5	01.2	2	- 8	+ 2	2673	8.8	77.4	01.1	2	+ 2	- 2
2554†	8.8	86.1	03.7	4	+ 11	+ 7	2614†	9.5	83.1	02.0	3	- 10	- 2	2674	9.1	86.9	97.5	2	- 4	- 2
2555	8.3	79.9	04.1	4	+ 6	+ 3	2615	7.7	80.8	01.2	2	+ 2	- 2	2675	8.9	79.9	00.1	6	+ 2	0
2556†	9.2	87.1	04.1	4	- 10	+ 3	2616	9.1	86.8	02.6	6	0	+ 1	2676†	7.7	81.9	01.1	5	+ 1	- 4
2557	9.0	82.8	04.1	6	0	+ 1	2617	8.2	82.1	02.2	4	+ 4	- 1	2677	8.8	85.5	99.6	2	- 3	+ 2
2558	9.0	83.5	04.1	4	+ 1	+ 1	2618	8.9	82.5	01.3	5	+ 2	- 3	2678	8.8	85.1	01.1	5	+ 1	- 1
2559	8.9	81.8	04.1	4	- 3	+ 1	2619	8.3	84.6	01.3	5	+ 4	- 1	2679	8.4	79.8	01.1	5	+ 5	+ 1
2560	8.9	80.5	03.3	3	- 3	+ 3	2620	9.5	86.1	02.6	6	- 5	+ 3	2680	9.0	75.1	00.1	6	+ 2	+ 1
2561	9.3	83.1	02.2	6	- 1	0	2621	9.5	77.2	02.6	7	- 3	0	2681†	9.3	85.1	01.1	5	- 2	- 7
2562	9.1	91.2	05.4	3	+ 1	- 5	2622	8.9	82.6	01.9	6	- 3	+ 3	2682	8.7	85.3	01.1	5	0	+ 1
2563	9.3	80.5	02.2	6	0	- 2	2623	9.2	83.6	02.6	6	- 2	+ 2	2683	9.4	84.1	01.1	5	- 3	0
2564	9.5	89.1	05.4	3	- 4	- 2	2624	9.0	84.6	02.6	6	+ 1	+ 5	2684	8.7	81.1	01.1	5	+ 2	+ 2
2565	8.2	89.1	01.2	4	+ 5	0	2625	8.5	79.8	01.2	2	+ 8	0	2685†	9.5	89.6	01.1	5	- 11	+ 2
2566	8.9	84.4	04.1	4	+ 3	+ 2	2626	8.2	80.1	01.8	4	+ 3	- 3	2686†	9.0	74.1	01.1	2	- 10	+ 3
2567	6.8	77.8	02.3	5	+ 7	+ 1	2627	7.0	78.2	01.2	2	- 3	0	2687	8.8	76.8	99.6	2	+ 2	0
2568	8.1	82.9	03.3	3	- 1	+ 2	2628	9.2	87.2	01.8	4	0	- 1	2688	8.1	82.5	01.1	2	0	+ 2
2569	9.0	79.2	02.8	5	- 3	- 1	2629	8.3	76.1	01.8	3	- 7	0	2689	8.1	84.1	99.6	2	- 3	- 4
2570	6.2	81.4	00.5	3	+ 9	+ 2	2630	9.0	84.5	00.5	5	0	+ 3	2690	8.5	81.1	00.7	3	+ 6	+ 1
2571	8.3	78.4	01.2	2	- 2	+ 2	2631	8.3	74.8	99.4	3	+ 2	- 1	2691	9.3	74.1	99.3	4	0	- 1
2572	8.7	81.2	02.9	4	+ 3	- 3	2632	8.8	83.2	99.4	3	+ 5	0	2692	7.0	79.2	99.5	3	+ 5	- 5
2573	8.7	91.1	03.7	4	+ 2	0	2633	8.1	80.5	01.8	4	+ 3	- 2	2693	9.0	80.8	00.7	3	- 4	0
2574	8.2	86.5	02.0	3	+ 1	+ 3	2634	9.1	87.6	02.0	2	- 2	- 2	2694	8.7	76.1	96.6	2	+ 3	0
2575†	5.5	80.1	02.9	4	+ 1	- 3	2635	8.9	81.4	01.8	3	- 3	+ 2	2695†	9.5	93.6	99.5	3	+ 17	- 7
2576	9.5	83.9	02.9	4	- 6	+ 1	2636	6.8	83.5	01.8	4	+ 6	+ 2	2696	6.6	80.1	00.7	3	+ 3	- 1
2577	9.1	77.1	02.9	4	- 3	+ 1	2637	9.1	84.4	99.4	3	- 3	+ 3	2697	8.0	76.8	97.5	2	+ 3	+ 2
2578	9.5	84.1	01.8	3	- 9	+ 2	2638	9.1	86.5	99.4	3	- 5	- 2	2698	9.1	80.4	00.7	3	- 5	+ 1
2579	8.5	75.1	02.9	4	- 1	+ 1	2639	7.9	78.5	00.4	4	- 1	0	2699	8.8	82.3	99.5	3	- 2	+ 1
2580	9.0	88.8	04.1	2	- 2	0	2640	9.3	79.2	99.4	3	+ 6	+ 1	2700	9.1	86.9	03.6	3	- 5	+ 6



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
2701	9.1	90.1	00.7	3	- 5	+ 3	2761†	9.3	77.1	03.4	2	-12	+ 4	2821	8.2	79.5	00.1	4	+ 4	- 1
2702†	9.3	80.6	00.7	3	+ 2	- 1	2762	8.5	74.8	96.8	3	+ 6	- 1	2822	7.7	77.1	01.2	2	- 3	0
2703	9.5	80.2	99.5	3	- 9	0	2763	7.5	79.5	96.8	3	- 1	- 4	2823	8.9	75.1	97.4	3	+ 2	- 2
2704	9.2	74.8	01.7	4	- 9	+ 5	2764	9.0	88.9	99.0	3	+ 1	- 1	2824	8.7	87.2	03.5	2	+ 6	+ 2
2705	9.0	74.8	98.4	3	- 5	+ 1	2765	9.1	84.4	97.2	3	- 4	+ 1	2825	9.1	79.4	99.1	4	- 5	0
2706	8.4	76.8	98.1	2	+ 2	- 5	2766	8.2	79.2	96.8	3	0	- 1	2826	9.0	81.1	00.1	4	+ 1	0
2707	9.0	88.1	99.3	4	- 2	+ 1	2767	9.1	76.1	96.3	4	+ 4	+ 2	2827	9.0	81.4	01.2	2	- 1	+ 1
2708	8.2	81.6	99.6	2	- 3	- 1	2768	8.6	86.1	00.4	4	- 6	0	2828†	9.5	83.6	02.0	3	-13	+ 5
2709	8.2	86.3	99.6	2	+ 5	+ 2	2769	9.1	88.1	99.6	2	- 2	+ 2	2829†	9.2	82.1	00.1	4	-14	+ 1
2710	8.1	75.2	97.5	2	+ 1	+ 3	2770	8.9	78.8	97.2	3	+ 1	- 1	2830	6.8	78.6	02.0	3	+ 5	+ 2
2711†	9.3	83.2	98.1	2	- 6	- 7	2771	8.4	78.8	97.2	3	+ 3	+ 1	2831	8.3	76.8	99.1	4	+ 6	0
2712	8.6	77.6	03.4	2	- 2	0	2772	8.6	76.2	96.8	3	0	+ 1	2832	9.0	79.3	00.1	4	+ 2	- 1
2713	7.8	78.8	99.6	2	+ 4	0	2773	9.2	76.8	96.3	4	- 7	+ 4	2833	9.0	80.1	99.1	4	+ 2	+ 1
2714	7.6	75.8	00.7	3	+ 5	- 1	2774	8.8	74.8	97.2	3	- 6	- 1	2834	7.3	76.2	00.1	4	+ 6	0
2715	9.4	82.2	03.4	2	- 1	+ 5	2775	8.8	76.8	99.4	3	0	- 1	2835	7.8	77.7	99.1	4	0	+ 2
2716	9.1	83.1	96.6	2	- 2	+ 2	2776	8.5	80.1	99.4	3	+ 5	+ 5	2836	9.0	86.6	00.4	3	- 4	0
2717	7.0	74.5	96.7	3	+ 4	- 1	2777	9.3	80.2	96.8	3	- 4	- 3	2837†	9.3	82.1	02.1	3	-10	- 2
2718†	8.9	76.8	96.7	3	+ 6	-15	2778	9.5	92.6	94.1	1	+ 3	- 1	2838	9.1	83.5	02.1	3	- 6	0
2719	9.0	86.5	03.4	2	- 4	0	2779	8.0	75.5	99.4	3	+ 2	+ 3	2839	8.5	76.9	02.0	3	+ 2	+ 2
2720	9.2	74.6	99.1	4	- 4	- 3	2780	9.1	77.5	98.8	4	- 2	0	2840	9.1	88.7	03.5	2	0	+ 1
2721	8.6	74.8	96.7	3	- 4	- 6	2781†	7.1	78.7	01.0	3	0	0	2841	8.8	74.8	00.4	3	0	- 4
2722	8.9	77.4	99.6	2	- 2	- 2	2782	9.1	89.1	94.1	1	- 5	+ 1	2842	8.8	75.4	02.1	3	0	+ 1
2723	9.5	74.1	99.1	4	0	- 2	2783	9.2	78.5	99.0	3	+ 2	+ 1	2843	6.5	81.5	00.4	3	+ 1	- 1
2724	7.2	74.5	96.7	3	+ 1	- 3	2784	7.5	77.1	99.6	2	+ 3	- 1	2844	8.8	75.8	01.2	2	- 3	0
2725	7.8	76.8	96.7	3	+ 3	+ 3	2785†	9.4	81.8	99.4	3	-12	+ 5	2845	7.0	75.7	00.4	3	0	- 7
2726	9.4	89.1	98.1	2	+ 4	+ 4	2786	9.1	87.7	96.1	2	- 1	0	2846†	8.7	76.1	02.1	3	+ 4	- 1
2727	7.7	76.7	97.7	6	+ 5	- 2	2787	8.6	77.3	01.0	3	- 3	+ 3	2847	8.8	86.9	04.1	2	+ 4	+ 1
2728†	6.5	79.9	96.7	3	+ 2	- 1	2788	9.0	75.1	96.6	2	0	+ 1	2848	9.1	87.1	98.7	2	- 4	- 3
2729	9.2	76.8	98.1	2	+ 2	- 1	2789	7.5	77.4	99.0	3	+ 1	+ 2	2849	9.3	76.1	02.0	3	+ 2	+ 2
2730	9.0	78.3	94.1	2	- 3	- 3	2790	9.0	76.6	01.0	2	+ 2	+ 3	2850	8.5	84.1	02.1	3	0	+ 2
2731	8.7	77.4	96.1	2	- 3	- 4	2791	9.2	81.1	98.3	4	- 3	0	2851	7.4	80.8	01.1	4	- 2	0
2732†	9.5	79.1	98.1	2	-12	+ 1	2792	9.1	86.1	96.1	2	- 3	+ 2	2852	9.0	77.8	01.2	2	+ 2	- 2
2733	9.0	79.5	98.1	2	- 2	+ 2	2793	9.1	90.2	00.4	4	+ 2	- 1	2853	9.2	82.2	02.1	3	- 6	+ 2
2734	8.0	82.6	97.0	3	- 2	+ 2	2794	9.2	93.1	96.1	2	- 2	- 2	2854	8.6	86.6	04.1	2	- 2	0
2735	8.3	79.1	97.5	2	+ 2	+ 3	2795	9.5	74.1	99.6	2	- 8	+ 4	2855	8.7	75.7	98.7	2	0	0
2736	8.5	82.9	98.1	2	+ 3	- 3	2796	8.8	78.9	99.0	3	- 1	0	2856	6.7	76.5	00.4	3	+ 2	+ 1
2737	8.5	82.8	98.1	2	- 2	0	2797	8.0	76.7	96.1	2	+ 2	- 2	2857	9.0	80.1	02.1	3	+ 3	+ 4
2738	8.7	81.8	98.1	2	+ 2	+ 3	2798	8.5	76.8	99.5	3	+ 1	- 4	2858	9.5	83.1	02.0	3	- 3	- 2
2739	9.0	76.8	99.6	2	+ 2	0	2799	6.7	74.8	00.3	5	+ 5	0	2859	8.4	76.7	01.2	2	- 2	- 2
2740	9.1	76.8	96.1	2	- 6	+ 6	2800	8.7	75.6	96.1	2	+ 3	+ 4	2860	8.8	81.2	00.4	3	- 1	- 3
2741	9.0	81.2	99.6	2	- 1	+ 1	2801	8.8	81.5	96.1	2	+ 1	+ 1	2861	8.4	77.2	01.1	2	+ 3	0
2742	8.2	81.8	99.6	2	- 4	+ 2	2802	9.5	74.1	96.1	2	+ 4	- 2	2862	9.0	76.7	02.1	3	+ 4	+ 3
2743	9.4	83.6	01.0	3	- 2	+ 6	2803†	9.5	91.5	96.1	2	-12	0	2863	9.1	90.5	00.4	3	- 2	- 4
2744	8.8	83.6	98.1	2	+ 2	0	2804	8.9	81.1	99.0	3	- 1	- 2	2864	8.9	78.4	98.7	2	+ 5	0
2745	8.8	74.8	96.5	2	0	- 1	2805	7.7	79.5	99.0	3	+ 2	- 1	2865	9.0	82.0	00.9	4	- 3	+ 2
2746†	9.5	77.1	03.1	2	0	+ 3	2806	9.1	75.4	96.1	2	+ 1	0	2866	9.2	85.1	03.4	3	- 8	+ 1
2747	8.6	78.1	00.8	3	+ 4	- 4	2807	9.1	78.1	99.0	3	- 1	+ 1	2867	8.8	76.5	01.8	4	+ 2	- 2
2748	8.7	76.6	00.8	3	- 1	- 5	2808	8.4	75.7	96.6	2	+ 4	- 2	2868	9.1	76.5	03.1	3	- 1	+ 4
2749	8.9	78.4	96.1	2	+ 2	0	2809	9.3	75.1	99.0	3	- 3	+ 3	2869	9.3	81.1	01.8	4	- 3	0
2750	8.8	80.5	96.1	2	0	- 4	2810	9.2	88.2	96.1	2	0	- 6	2870	9.3	89.6	01.8	4	- 6	+ 2
2751	8.2	75.8	00.8	3	+ 2	- 4	2811	9.0	88.2	00.4	3	- 3	- 1	2871	9.2	80.4	01.8	4	- 8	+ 2
2752	9.0	75.5	98.7	5	- 5	- 2	2812	8.4	80.8	00.4	3	+ 2	+ 2	2872	9.1	86.2	01.8	3	+ 2	+ 2
2753	8.9	79.9	99.6	4	0	0	2813	8.8	76.1	01.2	2	+ 2	0	2873	9.1	80.9	02.3	4	0	+ 1
2754	9.1	79.8	99.3	4	- 2	+ 1	2814	8.5	76.5	00.1	4	+ 2	- 1	2874	9.0	74.5	00.9	4	0	+ 1
2755	8.2	76.5	96.5	2	+ 4	+ 2	2815	9.0	87.8	00.1	4	- 3	0	2875	9.0	75.8	98.5	3	0	+ 1
2756	9.1	87.4	99.3	4	- 2	+ 3	2816	9.2	74.1	97.4	3	+ 2	+ 2	2876	9.4	88.1	04.1	2	- 6	- 4
2757	8.9	83.1	95.7	3	- 3	- 1	2817	8.7	77.1	00.4	3	+ 4	+ 2	2877	9.1	76.1	00.2	2	0	0
2758	9.1	87.5	01.6	4	0	+ 3	2818†	5.2	77.5	99.1	6	+ 6	+ 3	2878	9.3	83.6	00.2	2	- 6	+ 3
2759	8.2	80.5	99.4	3	+ 1	- 1	2819	8.7	77.1	01.2	2	+ 2	+ 2	2879	9.3	87.2	00.2	2	- 6	- 3
2760†	5.2	76.1	99.0	3	0	- 2	2820	9.2	77.1	01.2	2	- 3	- 2	2880	8.5	74.8	98.7	2	0	0



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No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
2881	9.2	74.8	03.5	2	- 4	+ 8	2941	9.4	79.6	03.1	5	- 9	0	3001	8.2	82.5	98.7	2	+ 4	+ 2
2882	9.0	78.1	00.2	2	0	- 1	2942	8.6	78.8	98.5	3	+ 3	+ 2	3002†	9.0	74.1	98.7	2	+ 10	0
2883†	9.1	80.2	00.2	2	+ 4	- 11	2943	6.0	77.8	99.5	3	0	- 1	3003	8.5	81.7	99.6	2	0	0
2884	8.6	87.5	04.1	2	- 2	+ 2	2944	9.0	83.8	01.4	7	+ 3	+ 3	3004	8.4	84.5	01.1	3	- 2	+ 2
2885	9.1	76.8	98.8	3	+ 2	+ 4	2945	9.3	84.7	98.5	3	- 3	+ 3	3005	8.6	75.1	97.4	3	+ 5	+ 1
2886	7.9	76.5	00.2	2	+ 2	0	2946	7.6	79.8	97.8	3	+ 5	+ 3	3006	8.6	82.8	97.4	3	+ 2	+ 1
2887	9.0	80.5	01.1	2	0	+ 1	2947	8.5	77.9	98.6	4	0	+ 1	3007	9.3	75.8	01.4	4	- 5	+ 2
2888	9.1	83.1	01.1	2	+ 6	+ 2	2948	9.4	85.2	98.5	3	- 4	0	3008	9.3	82.2	01.4	4	- 7	+ 3
2889	9.4	87.1	04.1	2	- 4	+ 2	2949	9.2	83.5	97.8	3	- 5	0	3009	9.0	77.1	00.4	4	+ 1	- 2
2890	8.0	75.8	01.4	4	+ 7	- 6	2950	9.5	78.1	97.8	3	+ 1	0	3010	9.1	81.1	97.4	3	- 1	+ 4
2891	8.7	75.5	01.4	4	+ 7	+ 5	2951	9.5	79.8	98.7	2	- 6	0	3011	9.5	80.2	01.4	4	+ 1	0
2892	9.2	75.7	00.2	2	+ 4	+ 4	2952	9.1	78.5	98.7	2	0	- 4	3012	8.5	77.1	01.1	3	+ 4	+ 1
2893	9.2	76.1	02.4	3	+ 3	0	2953	8.6	86.6	04.1	4	- 1	+ 3	3013	9.3	80.2	99.6	6	- 6	+ 1
2894	8.7	75.4	00.2	2	+ 1	- 2	2954†	9.3	84.8	03.1	5	- 16	0	3014	8.6	79.7	97.4	3	+ 2	- 1
2895	9.2	79.8	01.1	2	- 3	+ 4	2955	7.5	76.6	97.8	3	+ 8	+ 2	3015†	7.4	83.2	00.1	5	+ 3	- 1
2896	9.0	88.2	02.4	3	- 1	+ 1	2956	9.2	86.2	97.1	2	- 8	0	3016	9.2	77.1	01.6	4	- 4	+ 7
2897†	8.9	79.7	99.2	2	+ 10	+ 2	2957	7.0	84.6	97.1	2	+ 5	+ 2	3017†	9.5	80.8	01.1	3	- 13	0
2898	8.9	77.8	99.2	2	+ 2	0	2958	8.6	74.1	02.5	3	+ 2	- 1	3018	7.5	74.5	01.7	5	+ 2	+ 2
2899	9.1	82.8	02.4	3	+ 2	- 1	2959	9.0	76.2	98.7	2	- 3	0	3019	8.4	81.5	04.1	2	0	0
2900	7.1	76.8	99.2	2	+ 4	0	2960	8.5	75.2	98.1	2	+ 7	+ 2	3020	9.0	82.3	00.4	4	+ 1	0
2901	8.6	81.1	01.1	2	+ 2	- 3	2961	9.5	74.1	03.5	2	+ 2	+ 4	3021	9.5	74.1	02.1	3	+ 6	- 4
2902	9.4	91.2	04.1	2	- 6	- 1	2962	9.0	79.5	98.7	2	0	- 2	3022	9.0	75.2	02.1	3	+ 3	- 3
2903	8.8	85.1	99.2	2	- 8	+ 4	2963	9.5	94.1	04.1	2	+ 2	+ 4	3023	9.0	74.5	00.0	3	+ 2	- 3
2904	8.7	86.0	99.2	2	- 1	+ 2	2964†	8.5	80.1	97.1	2	- 10	- 4	3024	9.1	86.7	02.1	3	- 2	0
2905	8.7	79.8	00.2	2	+ 6	0	2965†	8.9	92.6	00.2	3	+ 10	0	3025	8.5	75.8	00.7	3	- 2	- 2
2906	8.7	80.4	99.2	2	+ 2	+ 3	2966	8.9	93.1	00.2	3	+ 3	- 1	3026	7.8	76.1	99.7	2	+ 2	+ 2
2907	7.8	76.8	00.2	2	+ 6	0	2967	8.1	75.1	98.1	2	+ 4	- 4	3027	8.8	79.9	96.6	2	+ 4	- 4
2908	9.0	87.6	02.4	3	- 8	+ 1	2968	8.7	85.7	00.2	3	- 1	- 2	3028	8.1	81.5	02.1	3	+ 5	- 2
2909	8.7	78.8	01.1	2	+ 6	- 2	2969†	9.5	82.2	01.0	3	- 16	+ 5	3029	8.4	78.8	96.6	2	+ 2	+ 3
2910†	8.7	87.2	04.1	2	- 10	+ 2	2970	8.0	79.8	97.1	2	+ 1	+ 5	3030	8.9	80.5	96.6	2	- 1	+ 2
2911	8.3	82.5	00.2	2	0	- 1	2971	9.4	81.6	98.1	2	- 8	+ 4	3031	8.2	76.5	00.0	3	+ 1	- 2
2912	8.9	92.1	02.4	3	+ 5	- 2	2972	8.0	89.7	02.5	3	- 6	- 2	3032	9.5	74.1	02.1	3	- 1	- 1
2913	8.7	77.6	02.4	3	+ 1	- 1	2973†	8.5	74.9	02.5	3	+ 10	- 1	3033	8.7	80.1	00.4	4	- 2	+ 1
2914	8.5	81.1	01.2	3	+ 1	+ 1	2974	9.0	80.9	97.1	2	0	0	3034	8.9	83.6	96.6	2	- 2	+ 2
2915	7.0	74.8	02.4	3	+ 6	- 2	2975	8.8	83.4	00.2	3	+ 2	+ 2	3035†	9.0	85.1	01.1	3	- 9	+ 14
2916	8.5	79.5	02.4	3	+ 5	- 3	2976	8.9	86.2	04.1	2	+ 2	- 2	3036	7.6	79.5	99.7	2	+ 4	- 1
2917	9.5	74.1	01.1	2	0	+ 6	2977	9.3	82.1	98.1	2	- 2	+ 2	3037	8.6	83.1	96.6	2	+ 6	+ 2
2918	9.0	76.1	01.1	2	- 4	- 3	2978	9.3	88.5	98.1	2	- 4	+ 1	3038†	9.5	73.2	00.7	3	- 11	+ 6
2919	9.0	79.6	00.2	2	- 2	+ 3	2979	9.0	79.2	00.2	3	0	0	3039	9.2	83.7	00.0	3	- 4	- 1
2920	8.9	76.1	99.8	3	+ 1	0	2980	8.2	77.2	00.6	4	+ 2	+ 1	3040	9.1	81.5	01.1	3	+ 1	- 8
2921	8.7	87.7	03.5	2	0	- 1	2981	8.8	93.2	97.1	2	+ 2	+ 2	3041	8.8	82.5	02.1	3	+ 4	- 3
2922	8.6	77.9	01.6	4	+ 4	0	2982	8.5	83.1	99.6	2	+ 4	+ 2	3042	8.9	82.8	99.7	2	0	0
2923	9.5	77.5	02.4	3	- 2	+ 3	2983	8.6	80.1	02.5	3	+ 1	+ 3	3043	8.7	81.6	99.7	2	- 4	- 4
2924	9.5	80.4	02.4	3	- 4	+ 3	2984	9.3	81.7	97.1	2	- 2	0	3044	8.5	88.7	02.1	3	+ 2	+ 1
2925†	8.0	76.8	02.4	3	+ 4	+ 1	2985	7.6	82.2	02.5	3	+ 5	- 4	3045	9.4	87.1	96.6	2	+ 2	- 2
2926	9.0	77.5	01.2	3	- 4	- 1	2986	8.9	74.5	98.7	2	0	- 1	3046	9.2	90.2	02.1	3	- 3	- 1
2927	8.4	81.5	01.6	4	+ 5	0	2987	9.1	81.8	99.6	2	0	- 4	3047	8.5	82.2	00.0	3	+ 2	- 2
2928	9.3	85.2	01.2	3	+ 1	0	2988	8.9	85.8	01.0	3	+ 3	+ 2	3048	8.2	80.9	00.7	4	+ 4	0
2929†	9.3	90.1	99.5	3	- 16	0	2989	9.0	81.3	97.1	2	- 2	+ 2	3049	9.4	75.1	02.1	3	- 4	0
2930	9.4	78.4	99.2	2	- 6	+ 1	2990†	9.5	94.1	02.5	3	+ 12	- 2	3050	8.4	81.9	02.1	3	+ 1	+ 3
2931	9.0	78.6	99.5	3	+ 1	- 2	2991	8.2	74.8	02.5	3	+ 6	0	3051	9.0	83.2	98.6	4	+ 3	- 3
2932	9.4	76.1	98.5	3	- 6	+ 3	2992†	...	...	...	...	...	...	3052	9.0	79.7	96.6	2	+ 2	+ 2
2933	9.5	90.1	99.9	4	- 1	+ 2	2993	8.5	75.9	99.6	2	+ 6	- 1	3053	9.0	86.2	03.9	4	- 2	+ 4
2934†	9.2	93.1	97.8	3	+ 4	- 2	2994	8.0	75.6	98.1	2	+ 6	+ 1	3054	9.2	84.2	00.0	3	- 6	- 2
2935†	8.9	79.7	97.8	3	- 10	- 20	2995	7.8	77.2	98.7	2	+ 4	- 3	3055	9.5	88.2	00.1	3	- 3	+ 4
2936	7.4	75.1	99.9	4	+ 4	- 2	2996	8.8	82.8	98.7	2	- 1	+ 2	3056	9.0	89.1	00.1	3	- 3	0
2937	9.0	93.1	01.4	5	- 6	+ 4	2997	8.0	78.4	99.6	2	- 3	- 4	3057	8.7	88.7	98.1	5	+ 5	- 3
2938	8.8	77.1	99.5	3	- 1	- 1	2998	9.5	75.1	01.4	4	- 1	+ 2	3058	8.2	83.2	98.6	4	+ 2	- 1
2939	9.1	74.8	03.1	5	0	0	2999	9.1	79.6	97.4	3	- 7	+ 2	3059	9.1	85.1	98.6	4	- 1	+ 3
2940	7.6	83.2	99.5	3	+ 7	- 4	3000	9.2	78.1	99.6	2	+ 1	- 1	3060	9.0	84.1	98.6	4	0	+ 3



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
3061	8.2	82.5	03.9	4	- 4	0	3121	8.4	77.8	00.0	3	+ 6	0	3181	8.1	84.7	97.2	6	- 5	0
3062	8.8	84.7	98.6	4	0	+ 3	3122	8.9	79.4	99.3	4	0	0	3182	8.0	84.7	97.6	4	+ 4	0
3063	8.8	87.1	00.7	5	+ 2	- 1	3123	9.0	79.8	99.6	4	- 6	0	3183	8.4	80.7	00.1	3	+ 5	- 1
3064	8.3	80.5	99.8	3	+ 3	- 4	3124	9.2	83.2	00.1	5	0	+ 2	3184	9.5	94.1	99.8	3	+ 6	0
3065	9.1	84.7	03.6	2	+ 2	+ 2	3125	8.7	77.9	00.7	3	+ 4	+ 3	3185	8.9	88.6	02.3	3	- 5	+ 4
3066	8.5	88.7	01.6	2	+ 6	- 2	3126	8.9	78.6	97.1	2	- 2	0	3186	8.3	79.2	00.1	3	0	- 2
3067	9.0	81.2	96.6	2	0	- 3	3127	9.5	73.6	98.9	5	- 7	+ 3	3187	9.4	94.1	01.6	2	+ 6	- 4
3068	8.7	79.8	01.8	4	+ 1	- 4	3128	8.9	80.7	97.1	2	+ 6	- 1	3188	9.5	82.1	00.5	5	- 5	- 1
3069	9.2	90.2	02.3	3	- 6	+ 4	3129	9.1	87.2	99.9	5	+ 1	+ 1	3189	8.9	81.2	00.5	5	- 4	- 2
3070	7.5	82.2	00.4	3	+ 2	+ 2	3130	7.0	76.7	98.9	5	+ 4	0	3190	9.3	94.1	99.8	3	- 3	+ 1
3071†	9.3	93.2	99.7	3	- 7	+ 8	3131	7.8	80.8	00.7	3	+ 4	- 3	3191	9.0	88.7	00.8	3	- 6	+ 1
3072	9.4	94.1	00.4	3	+ 3	+ 5	3132	8.3	75.5	99.9	5	+ 2	- 1	3192	7.8	85.1	98.5	3	+ 1	+ 1
3073	8.0	85.8	99.7	3	+ 2	- 2	3133	8.8	79.2	02.1	3	+ 1	+ 1	3193	8.7	80.8	97.1	2	+ 2	+ 2
3074	9.1	88.2	02.3	3	- 8	0	3134	9.0	86.5	98.1	5	- 6	+ 2	3194	8.9	79.1	00.5	5	+ 3	+ 1
3075	8.5	87.7	96.6	2	+ 7	+ 1	3135	8.6	83.7	98.5	3	- 2	+ 3	3195	8.5	84.2	97.1	2	+ 4	- 1
3076	9.4	88.6	00.4	3	- 3	- 4	3136	8.9	87.4	01.6	2	+ 2	- 2	3196	8.7	86.2	99.8	3	- 9	- 4
3077†	8.0	87.7	01.4	3	+ 6	- 1	3137	8.6	82.7	00.1	3	0	- 1	3197	8.3	90.0	99.8	3	+ 1	+ 2
3078	7.0	84.6	03.5	2	+ 4	- 2	3138	9.0	89.5	98.5	3	0	- 2	3198	9.5	88.1	99.9	3	+ 3	- 5
3079	9.0	93.6	01.4	3	- 7	0	3139	8.7	83.7	98.5	3	0	- 3	3199	9.4	86.2	97.1	2	- 3	- 4
3080	9.2	95.1	01.6	2	0	0	3140	8.7	75.1	98.5	3	- 3	0	3200	8.6	89.7	03.5	2	+ 2	+ 3
3081	8.8	88.7	01.4	3	0	+ 5	3141	9.1	91.9	97.1	2	+ 6	0	3201	9.3	86.7	00.2	2	- 8	+ 3
3082	7.5	82.2	01.4	3	+ 2	- 4	3142	8.4	82.1	97.1	2	+ 6	+ 1	3202	6.9	75.8	01.2	2	+ 3	- 3
3083	9.0	88.6	01.6	2	- 2	0	3143	9.5	76.1	97.1	2	+ 5	0	3203	9.1	76.5	99.9	3	- 4	+ 1
3084	9.5	93.2	01.6	2	- 2	+ 6	3144	9.0	77.8	00.7	3	+ 5	0	3204†	6.5	78.5	99.8	3	+ 6	- 1
3085	8.9	76.5	96.6	2	- 6	- 2	3145	9.0	80.2	01.6	2	+ 2	+ 3	3205	7.7	80.2	99.9	3	+ 6	+ 2
3086	9.3	84.2	99.7	3	+ 1	- 1	3146†	7.9	80.5	00.7	3	0	- 3	3206†	9.5	96.1	99.8	3	+ 6	- 1
3087	9.5	87.5	96.6	2	+ 8	0	3147	9.5	94.1	00.7	3	+ 1	- 1	3207†	9.5	94.8	99.8	3	+ 11	+ 1
3088	9.5	84.1	00.4	3	+ 3	+ 4	3148	9.0	85.7	00.9	4	+ 1	- 1	3208	8.7	83.1	99.9	3	0	+ 1
3089	8.0	80.9	02.3	3	0	+ 2	3149	7.3	77.8	00.7	3	+ 1	0	3209†	9.5	83.1	01.2	2	- 29	- 5
3090†	9.1	80.2	00.4	3	+ 1	- 32	3150	8.9	85.2	97.1	2	0	- 2	3210	9.5	90.1	01.2	2	+ 1	+ 6
3091	8.2	79.2	96.6	2	+ 6	0	3151	7.0	78.8	01.6	2	0	+ 2	3211	9.1	82.9	99.9	3	0	- 4
3092	8.5	81.2	01.6	2	- 2	0	3152	8.7	87.1	00.7	3	+ 1	+ 1	3212	8.9	79.8	01.2	2	+ 2	- 4
3093	8.5	75.4	00.4	3	+ 2	+ 3	3153	6.4	81.2	01.6	2	+ 6	- 5	3213	9.1	82.2	99.9	3	+ 2	- 2
3094	9.0	75.8	99.7	3	- 4	- 2	3154	9.3	84.2	01.6	2	+ 4	0	3214	9.4	76.2	99.8	3	+ 2	- 3
3095	9.4	82.2	96.6	2	- 6	+ 3	3155	9.0	89.1	01.6	2	- 8	0	3215	9.0	75.8	97.1	2	0	0
3096†	9.1	79.6	99.7	3	- 25	- 2	3156	9.0	81.5	97.1	2	- 4	+ 2	3216	9.1	86.5	99.7	4	- 2	+ 2
3097	8.9	78.9	99.7	3	- 5	+ 2	3157	9.4	74.7	00.1	3	- 3	+ 3	3217	8.8	75.2	98.7	5	+ 4	+ 2
3098	7.7	77.2	01.6	2	+ 2	0	3158	9.1	83.9	01.6	2	- 3	+ 2	3218	9.2	77.1	98.7	4	0	0
3099	9.1	78.8	01.4	3	+ 2	0	3159†	9.4	87.6	00.7	3	- 13	+ 5	3219	8.7	79.7	01.2	2	+ 1	+ 1
3100	10.0	74.1	00.1	4	- 3	+ 1	3160	8.9	81.8	00.5	5	- 2	+ 2	3220	8.9	94.8	98.7	4	+ 8	+ 4
3101	9.3	75.2	99.7	3	- 1	- 3	3161	9.1	84.9	97.6	4	+ 1	+ 2	3221	8.5	78.1	98.7	4	- 2	- 2
3102	8.6	75.1	97.4	3	- 1	+ 3	3162	7.0	84.2	02.3	3	+ 1	+ 2	3222	9.4	77.2	02.0	3	- 7	+ 2
3103†	9.1	83.8	97.4	3	- 3	+ 1	3163	9.2	90.7	97.6	4	- 4	- 2	3223	9.0	87.6	98.7	4	- 4	+ 2
3104	8.8	81.2	99.7	3	+ 3	0	3164	9.5	84.2	01.6	2	- 8	0	3224	8.5	79.5	98.7	4	+ 4	- 2
3105	7.4	74.8	99.8	4	+ 6	0	3165	9.2	85.7	96.4	3	- 1	+ 3	3225	8.9	88.2	00.1	2	+ 1	+ 2
3106	9.5	85.4	97.4	3	- 4	- 2	3166	9.4	94.1	97.6	4	0	- 2	3226	8.9	75.8	99.2	2	0	- 1
3107†	8.0	79.8	97.4	3	- 1	- 2	3167	7.9	77.8	00.9	4	0	0	3227	9.1	74.2	98.5	3	+ 2	+ 1
3108	9.4	81.5	00.1	4	- 5	- 3	3168	8.8	87.7	00.1	3	+ 4	+ 1	3228	9.0	81.8	00.1	2	- 2	0
3109†	7.2	78.4	99.7	3	+ 6	- 9	3169	9.4	92.2	97.6	4	+ 2	+ 6	3229	8.8	78.7	98.7	4	- 2	+ 2
3110	7.0	75.8	01.6	2	+ 2	- 4	3170	8.5	88.7	00.5	5	+ 2	+ 2	3230	9.0	77.1	98.5	3	0	+ 2
3111	9.1	76.9	00.1	4	+ 1	- 1	3171	9.2	89.2	00.5	5	- 3	- 1	3231	8.7	79.2	01.2	2	+ 2	- 2
3112	9.0	87.5	00.1	4	- 2	+ 1	3172	9.0	86.2	96.4	3	+ 2	0	3232	8.6	77.5	99.8	3	- 4	+ 3
3113	8.0	76.5	01.4	3	+ 3	+ 1	3173†	8.3	88.7	96.4	3	+ 1	0	3233	9.0	74.9	99.9	3	+ 1	- 1
3114	7.9	78.6	00.1	4	+ 5	0	3174	8.7	86.1	02.3	3	+ 4	+ 1	3234	9.1	82.5	97.1	2	+ 4	+ 1
3115	8.4	76.8	00.1	4	- 2	- 2	3175	9.1	90.6	01.6	2	- 1	+ 4	3235	9.5	87.6	00.7	4	+ 7	- 4
3116	8.9	79.4	02.3	3	+ 2	+ 2	3176	7.5	82.7	98.1	5	- 2	0	3236†	9.1	87.2	97.1	2	- 10	0
3117	8.9	79.8	01.6	2	+ 5	- 1	3177	9.0	84.2	97.6	4	- 8	+ 1	3237	9.4	87.2	00.7	4	+ 2	+ 5
3118	9.3	83.8	99.8	4	- 4	- 1	3178	7.7	84.2	00.1	3	0	- 2	3238	9.4	86.1	98.6	4	+ 1	+ 1
3119	9.3	87.7	01.4	3	- 4	+ 1	3179	8.4	89.7	97.6	4	+ 5	+ 1	3239	9.1	87.2	97.1	2	0	0
3120	9.3	78.7	01.6	2	0	- 1	3180	7.9	90.2	97.6	4	+ 2	+ 1	3240	8.0	77.2	01.2	2	+ 1	- 1



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
3241	9.1	76.7	99.8	3	- 1	+ 3	3301	9.1	76.5	97.1	2	+ 2	- 2	3361	8.6	81.9	95.1	2	+ 2	+ 1
3242	9.0	77.2	98.6	4	+ 1	0	3302	8.2	76.8	97.1	2	+ 4	0	3362	9.5	76.7	01.2	2	- 2	- 1
3243	9.4	78.8	99.8	3	- 8	+ 1	3303	9.4	78.8	97.8	3	- 3	- 1	3363	9.5	74.1	01.5	3	+ 4	- 2
3244	9.2	82.1	98.4	3	- 4	- 2	3304	9.0	75.5	99.1	2	0	0	3364	9.0	76.2	01.8	3	- 2	+ 2
3245	9.3	80.7	97.1	2	- 4	+ 2	3305	9.1	78.9	97.1	2	+ 3	0	3365	9.0	80.2	00.2	4	+ 3	- 1
3246	9.3	77.7	98.6	4	- 5	- 2	3306†	9.3	98.5	95.1	2	+ 14	+ 3	3366	9.1	82.2	95.1	2	- 2	0
3247	7.6	76.8	01.2	2	+ 2	- 2	3307	8.2	76.9	00.5	3	0	0	3367	8.9	86.8	96.4	3	+ 2	+ 2
3248	9.0	75.8	99.9	3	+ 3	+ 5	3308	8.0	75.4	01.2	3	+ 3	+ 2	3368	9.5	86.6	96.7	3	- 5	+ 2
3249	9.2	80.8	03.5	2	- 7	+ 4	3309	7.5	74.5	95.1	2	+ 6	- 1	3369	9.0	77.5	02.2	4	- 3	0
3250	9.2	80.1	01.2	2	- 6	+ 4	3310†	9.1	79.7	01.2	3	- 2	0	3370	9.0	75.5	01.5	3	+ 1	- 1
3251	9.4	82.1	01.2	2	- 2	- 6	3311	7.6	77.2	97.8	3	- 2	- 3	3371	8.7	80.9	01.9	3	+ 2	+ 3
3252†	9.4	83.1	98.6	4	- 14	+ 1	3312	9.1	86.2	97.8	3	0	+ 2	3372	6.7	87.2	01.9	4	+ 4	+ 2
3253	9.5	76.7	01.8	3	- 5	+ 1	3313	9.1	76.8	95.1	2	+ 2	0	3373	9.3	73.6	98.1	3	- 2	0
3254	9.5	82.6	99.9	3	- 3	+ 3	3314	8.7	79.2	97.1	2	0	+ 4	3374	9.5	74.2	02.2	4	- 6	0
3255	7.7	75.5	97.6	4	+ 5	- 3	3315	8.7	78.7	01.2	3	- 2	0	3375	9.2	75.8	96.7	3	- 3	0
3256	9.3	79.8	97.9	5	- 1	- 2	3316	8.9	80.2	95.1	2	+ 2	+ 2	3376	9.5	94.8	01.8	5	+ 9	- 1
3257	9.0	84.7	01.8	3	0	+ 2	3317	8.7	85.4	01.2	3	+ 2	- 1	3377	9.0	86.2	01.9	3	+ 1	- 1
3258	9.5	76.2	97.1	2	- 2	0	3318	8.2	82.7	01.2	2	+ 1	+ 1	3378	9.3	77.2	01.8	5	+ 1	+ 4
3259	9.0	74.1	99.8	3	+ 5	0	3319	8.6	75.8	97.1	2	0	+ 1	3379	8.7	86.9	01.9	4	- 6	+ 1
3260	9.4	83.2	98.7	4	- 6	+ 2	3320	7.9	75.9	96.4	3	+ 9	+ 1	3380	9.5	75.2	01.8	5	- 7	+ 2
3261†	8.8	83.4	99.8	3	- 3	- 5	3321	9.4	80.2	97.1	2	- 5	+ 4	3381†	6.1	74.8	00.8	3	- 1	0
3262	8.2	79.7	99.8	3	+ 1	+ 1	3322	8.6	79.2	99.1	3	+ 5	+ 3	3382	8.7	76.8	01.8	5	+ 3	+ 1
3263†	7.0	74.5	97.9	5	+ 19	- 6	3323	9.4	76.7	01.2	2	- 4	- 4	3383	9.0	76.6	99.6	2	- 1	0
3264†	9.3	83.1	97.9	5	- 5	- 3	3324†	...	...	...	...	...	...	3384	8.0	74.9	97.5	4	0	0
3265†	8.7	78.2	97.9	5	- 7	- 27	3325†	9.5	87.6	95.2	2	- 14	- 2	3385	8.7	77.2	96.7	3	+ 2	- 1
3266	8.9	83.2	96.4	3	+ 4	0	3326	8.0	75.5	95.1	2	+ 6	0	3386	8.9	78.8	96.7	3	+ 1	0
3267	9.1	80.2	01.8	3	- 1	+ 1	3327	9.4	83.2	98.7	4	- 4	+ 3	3387	7.4	75.5	96.7	3	+ 4	- 3
3268	8.0	79.4	01.2	2	+ 5	- 1	3328	9.3	84.2	95.1	2	- 6	0	3388	9.1	87.2	03.2	2	- 6	+ 3
3269	8.7	79.5	99.8	3	+ 5	- 3	3329	8.9	76.4	98.1	3	0	- 3	3389	9.3	90.2	01.8	5	- 9	- 3
3270	8.3	77.8	99.8	3	- 2	0	3330	9.0	81.2	96.4	3	0	+ 1	3390	8.2	77.8	01.2	2	+ 1	+ 3
3271	8.0	75.5	97.1	2	+ 6	0	3331	9.3	84.2	95.1	2	0	- 2	3391	9.0	76.1	01.5	3	+ 4	0
3272	9.1	77.5	99.1	3	- 2	+ 1	3332	9.3	78.7	01.2	2	- 4	0	3392	9.1	76.2	02.2	2	+ 1	- 1
3273	8.6	80.5	95.0	3	+ 4	+ 1	3333	9.5	75.2	95.1	2	+ 4	+ 4	3393	9.4	75.5	99.6	2	+ 4	+ 2
3274	9.0	79.5	95.0	3	- 1	+ 2	3334	8.9	76.2	01.2	2	- 2	- 2	3394†	6.0	74.8	99.6	2	+ 5	- 1
3275	9.5	87.1	01.2	2	- 7	+ 8	3335	9.0	76.8	97.1	2	+ 5	- 9	3395	8.7	76.2	01.5	3	- 6	+ 1
3276	9.4	86.2	99.1	3	- 5	+ 1	3336	9.1	86.8	01.8	3	+ 1	+ 2	3396	8.7	86.2	99.6	2	- 3	0
3277	9.0	75.5	00.8	5	+ 4	+ 1	3337	8.7	79.9	01.2	2	+ 4	+ 2	3397	8.8	75.8	97.5	2	+ 2	- 1
3278	9.0	81.9	01.1	2	- 2	0	3338	8.9	86.9	95.1	2	0	+ 3	3398	8.7	80.1	01.5	3	+ 4	- 1
3279	9.2	86.8	00.8	5	- 9	0	3339†	5.0	75.5	97.1	2	+ 2	0	3399	8.9	82.4	01.5	3	0	- 1
3280	8.9	77.8	96.1	4	+ 4	- 3	3340	7.6	75.8	01.5	3	+ 3	- 1	3400	9.0	78.8	01.2	2	0	+ 4
3281	6.9	76.2	97.1	2	+ 8	+ 2	3341	8.4	78.8	97.1	2	- 1	0	3401	8.7	76.7	01.5	3	- 1	+ 1
3282	9.1	75.8	96.4	3	+ 1	+ 1	3342	8.7	86.8	03.2	2	0	+ 2	3402	6.8	86.2	02.2	2	+ 3	+ 3
3283	9.1	80.1	95.0	3	- 2	+ 1	3343	9.0	76.6	95.1	2	+ 2	+ 4	3403	8.9	85.1	01.5	3	0	+ 4
3284	8.8	75.8	00.8	5	- 2	0	3344	8.0	77.8	97.1	2	0	+ 2	3404	9.0	77.9	01.2	2	- 1	- 2
3285	9.5	80.8	99.3	5	- 8	+ 2	3345	9.1	78.8	97.1	2	- 1	- 1	3405	9.0	77.8	97.5	2	0	+ 2
3286	8.4	77.5	01.2	2	- 2	0	3346	8.8	80.2	95.1	2	+ 2	- 2	3406	8.9	79.1	00.8	3	- 2	0
3287	9.0	82.1	00.8	5	- 3	+ 3	3347	9.3	81.2	97.1	2	- 2	+ 3	3407	8.2	87.2	03.2	2	+ 2	+ 2
3288	8.4	78.8	99.1	7	0	0	3348	8.9	80.2	95.1	2	+ 4	- 1	3408†	9.2	79.7	99.6	2	- 12	0
3289	8.0	76.8	96.4	3	+ 5	+ 1	3349	9.2	87.6	97.1	2	- 2	- 4	3409	9.1	84.7	00.8	3	- 8	- 6
3290	9.3	83.8	99.1	7	+ 2	- 3	3350	9.0	76.1	97.5	2	+ 2	- 4	3410	8.7	82.2	01.5	3	+ 3	- 2
3291	9.3	81.5	95.0	3	- 3	+ 1	3351	8.6	77.7	01.2	2	+ 6	- 2	3411	9.0	78.2	01.5	3	0	- 1
3292	9.0	74.8	00.8	5	+ 3	0	3352	9.4	80.2	97.5	2	- 5	0	3412	9.2	93.2	99.6	2	+ 4	+ 4
3293	9.3	75.2	95.1	2	- 5	+ 5	3353	9.0	77.8	97.5	2	+ 1	- 2	3413	9.0	79.2	97.5	2	0	0
3294	9.0	80.1	01.2	2	+ 2	- 2	3354†	9.1	87.5	01.5	3	- 12	+ 1	3414	9.1	79.5	99.6	2	+ 2	+ 3
3295	8.1	75.7	97.1	2	+ 2	0	3355	6.9	76.4	95.1	2	+ 5	- 7	3415	9.0	84.2	99.6	2	+ 4	- 2
3296	8.9	76.9	01.2	2	+ 1	- 2	3356	9.4	76.8	99.1	3	+ 5	- 3	3416	8.8	80.7	99.6	2	+ 2	- 2
3297	9.0	78.1	01.2	3	+ 2	+ 2	3357	9.5	74.2	01.5	3	+ 7	- 4	3417	9.3	83.6	01.5	3	- 3	- 2
3298	9.0	77.7	01.2	3	+ 3	- 1	3358†	9.3	75.2	95.1	2	- 16	0	3418	9.2	86.6	01.5	3	- 2	- 1
3299	9.0	78.4	97.1	2	0	+ 1	3359	9.4	75.5	01.5	3	- 1	+ 1	3419	8.8	83.5	01.5	3	- 1	- 1
3300	8.8	75.2	01.2	2	+ 2	- 1	3360	9.2	77.1	96.7	3	- 1	+ 1	3420	9.0	91.8	02.2	2	- 4	0



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
3421	9.5	73.2	99.6	2	- 2	+ 5	3481	8.7	79.1	96.7	3	- 1	+ 1	3541	9.0	77.2	00.7	3	- 2	0
3422	8.3	78.7	97.5	2	+ 2	0	3482	8.1	76.2	01.9	4	- 1	+ 2	3542	9.0	75.5	00.1	3	+ 2	- 1
3423	8.0	78.2	01.5	3	+ 5	+ 1	3483	9.0	76.2	00.8	4	0	0	3543	9.4	77.2	99.7	3	+ 2	+ 3
3424	7.8	75.6	01.2	2	+ 2	- 3	3484	9.0	75.5	99.4	5	+ 2	+ 2	3544	8.9	79.9	99.7	3	- 4	- 1
3425	9.5	76.7	01.2	2	+ 4	+ 2	3485	9.4	73.9	96.8	3	+ 1	- 1	3545	8.7	86.8	94.1	1	0	+ 2
3426	8.3	93.2	00.8	3	+ 2	0	3486	9.0	74.5	01.6	6	- 1	- 2	3546	9.2	77.2	00.1	3	- 4	+ 1
3427†	6.5	82.2	99.6	2	+ 2	- 1	3487	8.6	75.8	96.1	2	0	- 2	3547	8.1	77.2	00.1	3	+ 5	- 3
3428	8.8	86.2	02.2	2	- 2	+ 2	3488	8.7	76.8	96.1	2	+ 3	0	3548	9.2	88.2	99.7	3	- 9	+ 2
3429	9.2	78.8	97.3	3	0	- 1	3489	8.2	75.5	00.7	3	- 6	- 4	3549	9.0	75.0	02.6	4	+ 1	+ 2
3430	9.2	93.8	03.2	3	+ 1	+ 8	3490	8.9	75.7	94.1	1	- 4	+ 2	3550	7.0	77.2	99.7	3	+ 5	+ 3
3431	9.2	79.8	98.4	3	+ 1	+ 3	3491	9.2	80.2	96.1	2	+ 2	- 1	3551	9.0	74.2	00.7	3	+ 3	+ 3
3432	8.7	74.8	97.5	2	- 2	0	3492	8.7	74.8	01.1	3	+ 6	- 1	3552	8.9	81.2	00.1	3	+ 3	0
3433	7.5	83.6	97.5	2	+ 2	+ 1	3493	8.4	76.8	96.1	2	0	0	3553†	9.3	81.2	00.1	3	- 14	+ 2
3434	8.5	83.2	97.5	2	- 2	+ 1	3494	7.8	86.7	03.2	2	+ 1	+ 1	3554	9.5	80.2	00.1	3	- 8	+ 1
3435	9.0	85.2	97.3	3	- 5	0	3495	9.4	75.5	95.6	2	- 6	0	3555	9.5	93.6	02.7	5	+ 3	+ 4
3436	8.5	84.2	97.5	2	+ 3	+ 2	3496	9.0	74.9	95.6	2	0	- 1	3556	7.7	74.5	02.1	3	+ 2	- 7
3437	9.3	83.1	00.4	4	- 8	+ 1	3497	9.5	91.2	00.7	3	- 5	- 2	3557†	9.5	93.1	02.7	5	+ 24	- 2
3438	9.0	83.7	98.4	3	- 2	- 6	3498	9.2	77.1	99.8	4	0	0	3558	9.5	79.2	02.1	3	- 6	- 2
3439	9.0	90.9	99.7	2	+ 2	- 1	3499†	9.5	73.2	01.1	3	+ 12	+ 5	3559	9.4	77.8	02.1	3	- 5	- 7
3440	7.8	81.2	98.7	3	+ 3	- 5	3500	9.2	82.5	01.1	3	- 3	- 1	3560	8.7	78.2	99.7	3	+ 6	+ 3
3441	8.7	84.4	99.7	2	+ 1	- 1	3501	9.1	74.4	95.6	2	+ 2	- 2	3561	8.5	74.5	99.7	3	- 1	- 6
3442	8.8	90.1	98.7	3	+ 1	+ 1	3502	8.2	78.6	99.6	2	0	- 2	3562	7.5	75.5	99.7	3	0	+ 1
3443	7.8	84.2	99.7	2	+ 4	+ 2	3503	8.8	77.5	96.1	2	+ 2	- 2	3563	8.4	73.5	02.6	4	+ 4	+ 4
3444	8.9	88.4	97.5	2	+ 3	+ 2	3504	8.7	77.7	96.1	2	+ 2	- 1	3564	8.6	76.7	02.6	4	+ 1	- 3
3445	9.0	90.1	99.1	1	- 4	0	3505	9.4	87.2	03.2	2	- 8	+ 2	3565	8.9	77.6	02.6	4	0	+ 2
3446	9.4	86.7	99.8	3	- 2	+ 3	3506	9.5	82.1	96.1	2	- 8	+ 3	3566	7.5	78.4	99.7	3	+ 1	+ 1
3447	8.6	87.2	03.4	2	- 8	+ 2	3507	8.7	86.8	03.2	2	+ 1	0	3567	8.9	74.8	02.1	3	0	0
3448	9.3	80.1	97.3	3	- 1	+ 3	3508	9.0	80.5	01.1	3	- 1	- 2	3568	8.3	77.2	02.1	3	+ 5	- 2
3449†	9.0	81.2	97.3	3	- 2	- 1	3509	9.4	80.2	01.1	3	- 5	+ 4	3569	9.5	88.2	02.6	4	+ 3	+ 1
3450	8.6	82.2	97.3	3	+ 1	- 3	3510	7.1	76.5	00.7	3	+ 1	- 2	3570†	9.2	74.1	02.1	3	- 10	+ 6
3451	9.4	90.2	97.5	2	+ 1	+ 1	3511	9.4	74.9	01.6	4	0	0	3571	8.0	80.8	02.6	4	0	- 1
3452	8.5	80.2	97.1	2	+ 3	- 2	3512	8.9	74.8	99.6	4	- 2	+ 1	3572	9.5	74.2	99.6	2	- 8	0
3453	8.3	80.2	98.1	2	+ 9	- 2	3513	8.1	76.5	01.1	3	+ 7	- 2	3573	9.0	87.5	99.6	2	- 7	0
3454	9.5	85.1	96.0	2	+ 4	0	3514	9.1	92.2	99.6	2	+ 9	0	3574	9.0	76.0	99.4	4	+ 6	- 3
3455	9.5	77.2	99.7	2	- 4	+ 3	3515	8.3	84.8	01.1	3	+ 1	0	3575	8.7	85.5	02.1	3	- 4	+ 3
3456	9.2	84.7	97.5	2	- 6	- 7	3516	9.4	74.8	99.7	4	0	0	3576	9.3	80.7	01.1	4	+ 2	+ 2
3457	9.1	80.1	97.4	3	+ 1	+ 4	3517	8.7	75.5	02.2	4	- 4	+ 1	3577	8.9	79.2	02.7	5	+ 1	- 1
3458†	9.3	84.2	97.5	2	- 2	- 2	3518	7.3	76.4	99.1	4	+ 5	- 2	3578	8.5	75.8	99.4	4	+ 3	0
3459	9.0	82.7	98.1	2	+ 2	- 2	3519	8.6	75.5	99.6	2	0	- 2	3579	7.5	75.6	98.8	4	+ 5	0
3460†	3.3	Fund.	98.1	2	+ 8	0	3520	9.0	77.5	94.1	1	- 4	- 1	3580	7.8	77.4	02.4	4	+ 1	0
3461	8.2	83.7	97.5	2	+ 2	0	3521	8.3	75.7	00.7	3	+ 1	+ 2	3581	9.5	75.8	99.4	4	0	0
3462	9.0	84.2	98.1	2	- 2	+ 6	3522	9.5	73.2	01.1	3	+ 6	+ 6	3582	9.4	76.0	02.6	4	- 6	0
3463	9.0	82.2	98.1	2	+ 5	+ 2	3523	9.5	85.5	01.1	3	- 5	- 3	3583	9.3	76.2	02.6	4	+ 4	- 2
3464	9.0	80.2	98.1	2	- 6	- 1	3524	9.2	75.2	99.6	2	0	+ 3	3584	8.8	76.4	98.8	4	+ 1	- 1
3465†	6.0	77.1	99.8	3	+ 3	0	3525	9.4	73.8	99.1	4	- 4	0	3585	9.0	74.7	03.5	3	+ 4	- 1
3466	9.0	78.2	96.0	2	+ 6	+ 1	3526†	...	...	...	...	...	...	3586	9.4	74.2	03.5	3	- 3	+ 3
3467†	9.0	87.2	03.2	2	- 10	- 2	3527	9.5	74.1	02.6	4	- 7	+ 3	3587	8.5	76.8	00.1	3	0	0
3468	9.4	80.1	99.7	2	- 5	- 2	3528	9.4	88.8	00.6	4	+ 4	- 5	3588	8.7	76.2	00.8	3	+ 2	+ 1
3469	9.2	86.6	99.7	2	0	+ 4	3529†	9.5	83.6	02.5	5	- 10	+ 1	3589	9.4	76.6	03.5	3	- 6	0
3470	9.0	87.7	98.1	2	+ 1	- 1	3530	9.5	80.2	00.7	3	- 8	- 3	3590	9.0	79.2	00.1	3	+ 1	+ 1
3471	8.4	77.8	99.7	2	- 3	- 2	3531	9.5	73.2	00.7	3	- 4	+ 4	3591†	6.2	76.4	03.5	3	0	+ 2
3472	9.4	90.2	97.0	3	- 7	- 2	3532	8.0	76.0	99.4	4	+ 3	+ 2	3592	8.9	78.0	02.4	4	- 1	- 2
3473	8.7	81.7	99.7	2	+ 2	+ 2	3533	8.6	75.4	99.1	4	- 2	+ 5	3593†	9.3	76.7	02.1	5	- 14	0
3474	7.8	89.7	99.1	1	+ 6	- 5	3534	8.7	76.5	99.1	4	+ 2	0	3594	9.2	80.9	01.3	6	- 4	+ 4
3475	7.1	78.2	96.7	3	+ 3	- 1	3535	8.9	76.9	98.6	4	+ 4	- 1	3595	8.9	79.5	02.4	4	+ 2	+ 1
3476	8.5	78.9	95.7	3	+ 1	+ 1	3536†	7.2	78.4	99.7	3	+ 4	- 13	3596	8.1	77.8	00.6	4	+ 1	0
3477	8.3	77.2	99.7	2	+ 2	- 1	3537	7.9	78.5	01.1	5	+ 4	+ 4	3597	9.4	81.2	02.1	5	- 5	- 2
3478	8.8	78.5	95.7	3	- 5	- 3	3538	8.2	77.4	02.1	3	+ 3	+ 1	3598	7.3	76.2	00.6	4	+ 4	0
3479	9.2	76.2	96.8	3	+ 1	- 1	3539	9.2	74.8	99.7	3	- 3	+ 2	3599	8.4	77.9	02.4	4	+ 2	- 1
3480	9.0	74.5	98.1	2	- 4	+ 4	3540†	9.5	74.2	00.7	3	+ 1	+ 2	3600	9.3	78.2	02.4	4	- 6	+ 3



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
3601	9.0	87.2	02.4	4	- 1	0	3661	9.5	80.9	01.1	2	- 6	0	3721	9.3	82.2	01.8	3	+ 2	+ 4
3602	9.0	75.1	03.5	3	0	- 3	3662†	9.1	81.7	97.6	2	-12	+ 2	3722†	9.5	94.1	01.8	3	+15	+ 2
3603	9.2	80.7	00.1	4	0	- 4	3663	9.1	81.2	97.6	2	+ 4	- 4	3723†	8.7	84.5	99.7	3	+ 2	- 4
3604	9.1	75.7	01.0	3	+ 3	+ 3	3664	9.0	86.7	97.6	2	+ 7	- 1	3724	9.3	87.7	00.5	3	- 5	+ 4
3605	9.0	75.2	00.1	3	+ 2	- 5	3665	9.0	81.5	97.6	2	- 5	+ 1	3725	9.0	86.7	98.6	4	+ 2	- 1
3606	8.9	78.8	00.1	4	- 1	- 2	3666	8.7	77.9	98.1	3	+ 1	- 3	3726	8.7	83.4	01.8	3	0	+ 4
3607	7.6	75.7	03.5	3	+ 1	+ 7	3667	8.2	86.9	03.5	2	+ 4	+ 5	3727	9.3	84.2	01.1	2	- 8	0
3608	8.9	77.7	02.1	3	+ 2	+ 1	3668	7.3	78.0	97.6	2	0	- 3	3728	8.5	83.5	01.1	2	+ 4	0
3609	9.2	78.1	97.6	2	+ 1	+ 1	3669	7.9	76.8	01.1	2	+ 2	+ 2	3729†	9.5	82.6	00.5	3	-15	+ 6
3610	9.5	76.2	01.0	3	+ 4	0	3670	7.5	82.2	01.1	2	+ 2	- 1	3730	9.0	74.2	02.2	2	+ 2	- 3
3611	9.0	84.8	01.4	4	- 2	- 5	3671	9.1	88.2	96.1	2	- 8	- 1	3731†	9.0	78.5	98.0	3	- 3	+ 4
3612	8.8	75.2	03.5	3	+ 3	- 1	3672	9.4	91.2	03.5	2	+ 4	- 2	3732†	8.9	79.8	95.1	3	- 1	- 2
3613	8.7	76.7	05.2	1	+ 1	+ 1	3673	9.3	93.8	98.1	3	+ 5	- 2	3733	8.9	81.2	99.6	2	+ 3	0
3614	8.9	83.0	97.6	2	- 3	+ 1	3674	9.0	83.2	97.6	2	0	- 2	3734	7.8	80.2	99.6	2	0	0
3615	7.0	87.2	05.2	1	+ 5	- 2	3675†	9.3	93.2	99.6	2	- 5	+16	3735	8.3	78.2	97.9	5	- 1	+ 5
3616†	7.5	74.6	03.5	3	+ 1	- 1	3676	8.9	81.2	01.1	2	- 2	+ 1	3736	8.6	74.9	98.7	4	+ 2	- 1
3617	8.5	88.4	03.5	3	- 2	- 1	3677	8.8	75.8	96.1	2	0	- 1	3737	7.0	75.2	98.7	4	+ 6	- 2
3618	9.3	83.1	00.1	3	+ 1	- 4	3678	9.0	81.1	01.1	2	- 6	+ 2	3738	8.5	76.8	99.6	2	+ 4	+ 3
3619	9.3	75.6	01.4	4	- 4	+ 1	3679	8.2	79.8	97.6	2	0	+ 2	3739	9.1	76.5	00.8	3	- 2	+ 1
3620	9.0	80.9	03.5	3	- 2	- 1	3680	9.1	77.2	96.1	2	- 4	0	3740	9.5	85.5	95.1	3	- 3	+ 4
3621	9.4	75.4	01.9	4	- 2	+ 1	3681	8.9	84.1	01.1	2	0	- 4	3741	9.4	81.7	98.0	3	- 6	+ 3
3622	8.9	78.6	99.5	5	+ 1	0	3682	8.6	79.6	96.1	2	+ 2	+ 2	3742	6.9	77.7	99.6	2	+ 5	- 2
3623	8.6	75.4	99.3	4	+ 3	- 2	3683	8.6	79.5	95.8	3	- 3	- 2	3743	9.1	80.2	01.1	2	0	- 1
3624	9.0	87.4	01.2	2	- 4	+ 1	3684	8.7	83.9	01.1	2	+ 2	- 2	3744	9.2	77.5	01.1	2	+ 3	- 2
3625	9.5	74.2	01.0	3	0	+ 2	3685	8.3	75.8	01.7	4	+ 1	0	3745†	9.5	82.2	94.1	2	-37	+ 1
3626	8.3	76.5	97.6	2	- 1	0	3686†	...	...	...	...	...	...	3746†	9.5	82.2	94.1	2	-22	+ 3
3627	8.3	77.9	97.6	2	0	+ 2	3687	8.7	82.2	95.8	3	+ 4	- 1	3747	9.0	81.2	99.6	2	- 8	0
3628	8.0	75.2	01.9	4	0	0	3688†	9.4	87.7	01.1	2	-14	0	3748	9.1	74.1	02.2	2	0	+ 2
3629	9.0	76.5	01.6	4	+ 4	- 8	3689	7.2	75.1	01.7	4	+ 4	+ 1	3749	8.9	77.9	99.2	3	0	+ 1
3630	8.9	76.5	02.1	3	+ 1	0	3690	9.3	79.2	95.8	3	+ 1	- 1	3750	9.1	84.2	01.1	2	+ 2	0
3631	8.7	86.9	05.2	1	- 7	0	3691	8.7	80.7	02.0	3	+ 3	- 5	3751	9.3	77.5	94.1	2	+ 3	+ 2
3632	7.9	75.8	01.9	4	- 5	- 2	3692	7.2	75.2	00.5	3	+ 2	- 5	3752	9.1	80.8	97.5	2	+ 2	+ 3
3633	9.0	73.5	01.0	3	- 2	- 7	3693	8.0	82.2	99.5	6	+ 4	+ 1	3753	8.6	88.2	01.1	2	- 8	- 9
3634	9.0	76.5	02.1	3	- 1	- 1	3694	9.3	85.2	95.8	3	- 5	- 7	3754	9.0	74.5	01.8	3	+ 1	- 5
3635†	8.7	86.7	01.0	3	+ 2	- 5	3695†	6.3	78.4	01.1	2	+15	-57	3755	9.3	84.4	01.2	4	- 3	0
3636†	6.7	76.2	99.3	4	- 9	+ 8	3696	8.9	80.9	96.1	2	- 2	0	3756	8.9	83.5	99.2	3	+ 2	0
3637	9.0	74.9	97.6	2	0	0	3697	8.2	80.5	00.5	3	+ 2	- 2	3757†	9.1	87.7	03.6	3	-11	0
3638	8.6	75.9	01.9	4	+ 2	0	3698	9.4	87.2	99.1	4	- 5	- 1	3758	9.1	82.6	99.2	3	- 2	0
3639	9.0	78.2	99.3	4	+ 3	0	3699	9.4	91.2	99.6	2	+ 1	+ 2	3759	9.3	79.2	99.2	3	- 2	+ 2
3640	8.9	78.5	02.1	3	+ 5	0	3700	9.0	91.1	01.1	2	+ 3	- 1	3760	8.8	78.6	94.1	2	+ 2	- 1
3641	8.9	77.9	02.1	3	- 1	0	3701	8.3	78.2	00.5	3	- 7	- 2	3761	8.8	88.7	94.1	2	- 3	0
3642	8.9	80.7	01.1	2	- 2	0	3702	9.1	90.5	00.5	3	- 8	+ 3	3762	8.7	74.9	01.2	4	+ 1	- 1
3643	9.0	86.6	96.1	2	+ 2	0	3703	9.4	95.1	99.6	2	0	- 1	3763	9.5	75.6	98.4	2	- 3	- 1
3644	8.6	93.1	96.1	2	+ 3	0	3704	9.0	81.2	99.6	2	+ 2	- 4	3764	9.4	75.1	97.5	2	- 8	- 1
3645	8.9	77.4	01.1	2	0	- 2	3705	8.9	86.7	02.2	2	- 4	- 5	3765	9.2	79.9	94.1	2	+ 1	- 1
3646	8.3	75.7	01.1	2	- 4	- 5	3706	8.0	79.2	97.5	2	+ 1	+ 3	3766†	9.3	81.2	97.5	2	- 5	0
3647	8.9	75.2	01.1	2	- 5	- 4	3707†	9.4	94.1	99.6	2	+11	+ 3	3767	8.4	78.2	00.8	3	+ 3	0
3648	9.4	76.6	00.6	4	0	+ 1	3708	8.2	89.9	00.5	3	+ 3	- 1	3768	9.5	74.2	99.2	3	- 5	- 1
3649†	6.5	75.9	96.1	2	+ 5	- 1	3709	8.9	83.7	02.2	2	- 4	- 3	3769	8.7	75.2	99.2	3	- 2	+ 1
3650	9.0	79.2	96.1	2	- 4	+ 2	3710	9.2	79.7	01.1	2	- 5	+ 6	3770	9.1	79.5	99.2	3	+ 1	+ 2
3651†	9.5	88.2	96.1	2	+20	+ 6	3711	9.0	93.6	00.8	3	- 5	- 1	3771	9.2	79.5	00.8	3	+ 2	+ 2
3652	9.5	81.6	96.1	2	- 6	- 2	3712	9.0	87.1	00.8	3	0	0	3772	9.3	81.2	97.9	4	- 2	+ 1
3653†	9.5	94.9	01.1	5	+ 6	+11	3713	8.1	79.9	96.1	2	+ 3	0	3773	9.1	75.7	98.1	4	0	- 3
3654	7.5	76.4	01.8	4	+ 3	+ 2	3714	8.5	80.5	00.5	3	+ 1	- 1	3774†	7.3	75.2	97.9	4	- 4	-10
3655†	9.1	75.2	97.6	2	- 4	+ 2	3715	8.5	84.2	00.5	3	0	+ 7	3775†	7.9	76.2	98.1	4	+ 4	- 4
3656†	9.1	74.9	97.6	2	+ 5	0	3716	9.3	80.7	96.1	2	- 7	+ 1	3776†	7.9	76.9	97.9	4	+12	+ 3
3657	7.8	76.5	97.4	3	+ 4	+ 1	3717	9.2	89.2	96.1	2	- 9	0	3777	8.7	87.9	97.9	4	+ 4	+ 2
3658	9.5	77.9	96.1	2	0	+ 2	3718	8.5	84.2	96.1	2	+ 1	- 2	3778	8.8	87.5	03.5	2	- 4	+ 3
3659	9.5	73.2	01.1	2	- 1	+ 3	3719	9.0	93.2	96.1	2	- 2	+ 4	3779	9.0	73.5	00.8	3	- 5	+ 2
3660	9.3	74.8	01.1	2	+ 3	+ 2	3720	9.4	74.1	00.5	3	+ 5	0	3780	8.8	75.9	99.8	4	+ 3	+ 2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
3781	8.5	74.9	98.1	4	0	+ 4	3841	8.8	87.5	02.3	4	- 4	+ 4	3901	7.6	77.9	00.8	3	+ 4	+ 1
3782	9.0	75.9	02.3	4	0	+ 2	3842	9.5	78.2	00.1	3	0	+ 4	3902	7.3	84.7	01.8	3	+ 8	+ 3
3783	8.8	86.9	97.9	4	- 3	- 3	3843†	8.7	77.8	02.6	4	+ 1	0	3903	9.0	82.2	01.4	4	+ 1	- 4
3784	9.3	80.2	98.1	4	- 3	+ 2	3844	8.1	76.9	02.6	4	+ 2	+ 2	3904	9.1	83.0	01.5	3	- 2	+ 1
3785	9.0	83.4	01.8	3	0	- 1	3845	9.1	77.9	00.1	3	- 3	+ 1	3905	9.0	83.2	01.5	3	- 2	- 3
3786	9.3	74.7	99.1	3	+ 1	+ 1	3846	9.3	77.2	94.1	1	- 1	+ 2	3906	8.3	86.2	02.6	4	+ 2	- 3
3787	8.5	75.2	93.6	2	+ 6	+ 3	3847	9.3	79.9	00.1	3	+ 1	+ 3	3907†	9.1	78.2	01.5	3	- 13	- 1
3788	8.5	80.6	94.1	1	+ 6	- 1	3848	9.0	77.7	00.1	3	+ 8	+ 1	3908	8.5	84.9	01.4	4	+ 2	+ 2
3789†	5.9	74.1	99.4	4	+ 4	- 1	3849	8.8	78.4	01.4	4	- 2	0	3909	8.8	87.2	99.7	2	0	- 1
3790	9.5	80.2	99.1	3	- 7	+ 4	3850	8.6	75.4	01.4	3	- 2	- 2	3910	9.0	88.7	01.4	4	+ 2	- 1
3791†	9.4	81.2	93.6	2	- 16	+ 3	3851	9.3	77.7	02.6	4	+ 2	- 2	3911	8.0	80.2	02.6	4	+ 3	+ 1
3792	7.0	75.7	99.1	3	+ 3	+ 1	3852	8.0	75.5	01.8	3	+ 7	- 5	3912	9.4	92.2	01.4	4	+ 2	+ 6
3793	9.1	84.4	00.8	3	0	+ 1	3853†	6.8	75.2	01.3	5	+ 5	+ 1	3913	8.3	84.2	01.8	3	+ 6	- 3
3794	9.0	75.5	00.8	3	0	+ 1	3854	9.2	85.4	00.8	3	- 4	+ 5	3914†	9.4	88.2	02.6	4	- 9	0
3795	9.4	88.7	93.6	2	- 9	- 1	3855	8.6	87.7	94.1	1	0	+ 1	3915	9.5	94.1	00.7	5	+ 9	+ 1
3796	8.9	79.1	99.1	3	+ 2	+ 1	3856	9.3	78.2	02.6	4	+ 2	+ 3	3916	8.2	86.7	01.5	3	0	0
3797	10.0	74.1	94.1	1	- 3	+ 1	3857	9.0	78.9	01.8	3	+ 2	- 1	3917	9.0	93.2	01.8	3	+ 5	- 1
3798	9.0	88.4	93.6	2	- 1	+ 1	3858	8.9	76.4	01.0	3	- 2	- 1	3918	7.9	86.5	01.5	5	- 1	0
3799	9.1	75.4	01.8	3	+ 1	- 2	3859	8.9	75.8	00.1	3	+ 2	- 2	3919	8.5	74.2	99.8	5	+ 2	- 2
3800†	9.0	89.2	00.8	3	- 15	+ 1	3860	9.3	75.2	01.8	3	- 2	0	3920	8.2	81.8	00.4	7	0	- 3
3801	9.1	74.2	01.4	3	+ 3	+ 1	3861	7.5	90.2	94.1	1	+ 6	- 4	3921†	9.3	86.7	00.7	5	- 21	0
3802†	9.2	91.2	99.4	4	- 11	+ 1	3862†	9.2	75.5	02.1	5	+ 2	+ 1	3922	8.9	83.2	01.5	5	- 3	- 1
3803	9.3	74.1	00.8	3	- 3	+ 2	3863	9.5	82.2	01.4	3	- 2	+ 2	3923	8.3	81.9	02.2	4	+ 6	+ 1
3804	8.8	76.9	00.8	3	+ 4	- 1	3864†	9.5	80.2	01.4	3	- 16	0	3924	9.0	80.5	99.8	5	+ 2	- 3
3805	8.7	91.7	97.9	4	- 1	+ 4	3865†	6.3	75.2	02.6	4	+ 11	- 11	3925	9.0	89.8	99.8	5	+ 3	+ 1
3806	9.0	73.7	94.1	1	+ 7	+ 3	3866	7.4	80.4	02.6	4	- 1	+ 2	3926	9.0	89.8	99.8	5	+ 3	- 2
3807	9.0	76.1	01.4	3	0	+ 1	3867	9.5	94.1	00.9	5	+ 6	- 1	3927	8.4	79.7	01.8	3	+ 3	+ 2
3808	7.8	76.5	99.1	3	+ 5	- 5	3868	9.5	80.2	03.4	4	- 4	+ 4	3928	7.6	76.9	02.0	5	0	- 9
3809	9.1	76.2	01.4	3	+ 1	+ 2	3869	9.5	75.5	99.9	5	- 4	+ 2	3929	8.9	83.6	99.8	5	+ 1	- 3
3810	8.9	74.7	00.8	3	- 2	0	3870	8.7	74.9	00.9	5	- 3	- 4	3930	9.0	78.4	00.6	4	+ 1	- 1
3811	9.4	80.2	99.1	3	- 9	- 1	3871	9.0	78.7	01.6	5	- 1	0	3931	9.0	84.7	02.2	4	+ 1	0
3812	9.0	93.2	93.6	2	- 3	+ 3	3872	8.6	88.5	97.8	3	- 4	+ 3	3932	9.2	85.2	02.2	4	0	+ 2
3813	9.1	93.5	94.1	1	- 1	0	3873	7.9	78.5	02.3	6	+ 2	+ 2	3933	9.1	81.0	99.1	3	- 2	- 1
3814	8.5	75.5	93.6	2	+ 5	- 5	3874	7.5	74.7	01.7	5	+ 6	+ 1	3934	9.1	81.2	97.5	3	+ 4	- 2
3815	6.8	75.9	01.4	3	+ 6	- 4	3875†	9.4	76.2	00.4	4	- 13	+ 2	3935	8.9	75.9	00.8	3	- 1	- 4
3816†	8.8	75.7	01.8	3	+ 3	+ 2	3876	9.0	87.7	01.7	5	- 8	+ 2	3936	9.0	76.5	99.4	4	- 1	0
3817†	9.4	78.9	99.4	4	0	+ 3	3877	8.6	78.9	00.8	3	+ 1	+ 1	3937	8.9	80.2	97.5	3	+ 2	- 3
3818	7.2	75.5	93.6	2	+ 8	0	3878	9.3	84.2	01.4	4	- 7	0	3938†	9.4	86.7	97.5	3	- 13	+ 2
3819	9.0	89.2	94.1	1	- 1	+ 2	3879	8.9	82.2	02.5	6	+ 1	+ 1	3939	8.7	82.2	97.5	3	+ 2	0
3820†	...	...	...	...	...	...	3880†	8.1	81.2	01.7	5	+ 15	- 9	3940†	5.0	82.2	97.5	3	+ 6	+ 2
3821	8.2	91.4	01.3	5	+ 5	0	3881	9.0	93.2	01.8	3	- 6	+ 1	3941	8.8	88.5	99.1	3	- 6	+ 2
3822	8.7	90.2	94.1	1	+ 1	+ 3	3882	9.1	88.5	99.9	5	- 6	+ 3	3942	9.0	76.5	00.8	3	- 3	- 1
3823	9.5	77.2	02.5	5	+ 1	+ 3	3883	9.0	80.5	00.8	3	+ 2	- 1	3943	7.9	80.2	01.3	5	+ 5	- 3
3824	9.5	80.7	98.4	4	- 8	+ 1	3884†	9.4	91.7	97.8	3	- 12	+ 1	3944	8.9	79.2	01.3	5	+ 3	- 3
3825	8.8	77.1	00.6	4	0	- 3	3885	9.0	75.9	99.9	5	0	+ 2	3945†	...	...	...	...	...	...
3826	7.8	76.4	00.6	4	0	- 1	3886	9.0	83.6	01.8	3	- 3	0	3946	9.2	90.2	01.5	3	- 1	+ 5
3827	9.4	76.9	98.4	4	- 2	- 3	3887	8.9	80.7	01.8	3	+ 2	- 3	3947	9.5	81.7	99.4	5	- 4	- 1
3828	8.8	78.8	00.6	4	+ 3	+ 1	3888	9.3	80.2	01.7	5	- 5	+ 3	3948	9.2	82.9	97.5	3	- 3	+ 1
3829	9.3	80.9	02.2	4	- 1	0	3889	8.6	82.9	99.9	5	+ 1	0	3949†	6.7	80.9	01.5	3	+ 4	- 1
3830	9.0	75.7	00.7	5	- 3	+ 1	3890	8.0	80.5	01.8	3	+ 4	- 3	3950	8.7	88.1	01.5	3	+ 3	+ 1
3831†	8.6	77.4	98.4	4	- 21	- 6	3891	8.0	88.7	01.1	5	- 1	- 3	3951	9.0	81.2	01.3	5	0	+ 2
3832	9.5	81.2	98.4	4	- 9	- 2	3892	9.1	93.5	00.8	3	- 1	+ 3	3952	8.9	87.7	99.1	3	+ 1	0
3833	9.0	76.2	00.7	5	+ 1	- 2	3893	8.5	83.5	01.5	3	+ 3	- 1	3953	9.0	84.8	99.5	3	- 7	+ 1
3834	8.8	74.5	00.8	3	- 5	- 4	3894	9.2	88.7	01.4	4	+ 2	- 1	3954†	4.0	Fund.	01.0	6	- 4	- 9
3835†	7.4	76.2	94.1	1	+ 2	- 4	3895	9.4	84.1	01.4	4	+ 9	+ 6	3955	8.7	83.2	99.1	4	0	+ 1
3836	9.4	79.5	98.4	4	+ 3	0	3896	9.3	89.9	00.8	3	- 3	+ 4	3956	8.6	83.5	97.9	4	+ 5	0
3837	9.1	75.8	01.8	3	0	- 2	3897	7.1	88.7	02.1	5	+ 3	+ 2	3957	9.0	90.9	02.2	4	- 4	+ 2
3838	8.8	75.9	00.7	5	+ 5	0	3898	9.1	86.7	01.5	3	0	+ 2	3958	9.4	83.7	03.2	2	- 1	+ 6
3839	8.9	75.3	01.4	3	+ 2	0	3899	9.1	88.2	01.5	3	- 9	+ 2	3959	9.3	83.2	00.9	5	- 3	- 1
3840†	6.5	86.5	98.4	4	+ 18	- 7	3900	9.5	88.2	01.8	3	- 4	+ 2	3960	8.5	87.6	99.1	4	+ 1	+ 1



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No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
3961	9.5	80.2	01.9	4	- 4	0	4021	9.3	81.2	00.4	4	- 8	+ 1	4081	9.4	80.2	98.2	3	- 9	+ 2
3962	9.0	78.4	00.9	4	0	+ 2	4022	9.5	74.7	99.7	2	- 9	+ 5	4082	9.5	74.2	98.2	3	- 2	+ 1
3963	8.8	81.5	00.9	4	+ 2	- 1	4023	8.8	77.5	99.7	2	+ 2	+ 1	4083	9.4	75.4	02.2	2	- 2	+ 3
3964	9.1	82.2	01.6	5	- 8	0	4024	8.5	78.4	00.4	3	+ 2	- 1	4084	8.9	76.7	01.2	3	+ 2	- 2
3965	9.0	83.7	01.6	5	+ 2	0	4025	9.0	78.5	99.7	2	+ 3	+ 4	4085	8.8	75.4	99.4	5	- 3	+ 2
3966	9.2	89.2	00.9	5	- 1	+ 9	4026	9.1	75.0	00.9	4	- 3	+ 1	4086	9.1	87.2	99.2	1	- 1	+ 1
3967	9.0	91.7	99.6	4	0	- 1	4027	9.3	82.2	02.2	3	- 1	0	4087	8.9	79.0	98.2	3	+ 1	+ 1
3968	8.9	80.2	00.4	4	+ 4	+ 4	4028	9.2	90.0	99.7	2	- 2	0	4088	9.3	75.4	98.2	3	0	0
3969	8.8	88.7	01.0	3	+ 4	+ 3	4029	9.5	80.2	99.7	2	- 9	- 4	4089	9.2	75.2	00.5	3	- 1	0
3970	8.2	77.2	99.6	2	+ 4	+ 3	4030	8.7	79.0	99.7	2	+ 6	- 2	4090	9.2	85.2	98.5	4	- 5	0
3971	8.8	75.8	01.0	3	- 4	- 1	4031	8.9	75.6	00.4	3	+ 1	0	4091	9.5	78.5	01.2	3	+ 1	+ 2
3972	9.1	73.7	00.8	3	- 2	- 1	4032	9.5	73.2	99.7	2	0	- 6	4092	9.0	77.7	01.7	4	- 2	- 6
3973	9.0	75.5	97.2	3	- 2	+ 4	4033	7.8	79.5	99.8	2	+ 2	+ 3	4093	9.4	74.5	00.5	3	+ 1	+ 2
3974†	8.0	77.5	99.6	2	- 4	- 4	4034	8.3	79.2	99.8	2	+ 2	+ 3	4094	8.9	76.4	00.5	3	+ 8	+ 1
3975	8.9	77.0	96.2	2	+ 3	- 1	4035	8.7	82.4	99.5	3	+ 3	0	4095	9.0	75.7	02.2	2	- 3	0
3976	7.3	75.7	96.2	2	+ 1	+ 1	4036	9.0	79.0	99.5	3	+ 1	- 1	4096	9.0	77.7	00.5	4	0	+ 1
3977	7.6	74.5	01.0	3	+ 6	- 1	4037	8.7	77.4	99.6	3	+ 1	0	4097	9.3	74.2	97.1	2	0	+ 1
3978	8.3	75.8	96.1	2	0	- 2	4038	9.1	74.7	00.9	4	+ 1	- 1	4098†	9.5	80.2	01.2	3	- 13	0
3979	9.0	77.2	99.5	3	0	+ 2	4039†	9.5	74.2	99.6	3	+ 10	0	4099	9.4	78.5	01.2	3	0	+ 4
3980	7.1	76.2	99.6	2	+ 5	+ 3	4040	8.9	86.8	99.6	3	0	+ 1	4100†	8.5	76.2	99.1	4	+ 4	- 4
3981	7.7	75.5	99.1	1	+ 2	- 8	4041	7.7	76.9	00.9	4	+ 2	+ 2	4101	9.1	75.2	97.8	3	+ 5	+ 2
3982	9.1	76.5	99.1	1	+ 2	+ 3	4042	7.0	77.6	00.9	4	+ 2	- 1	4102	9.3	80.5	00.5	3	0	0
3983	8.9	76.4	96.2	2	+ 7	- 4	4043	9.3	74.9	99.5	3	0	- 2	4103	8.5	80.9	00.5	3	+ 6	+ 2
3984	8.5	77.9	96.1	2	+ 6	- 3	4044	8.7	76.0	01.5	5	0	+ 3	4104	8.9	74.2	02.8	6	- 2	- 7
3985†	6.0	75.0	00.8	3	+ 5	- 6	4045	9.3	85.2	00.2	4	0	+ 2	4105	9.0	76.5	97.1	2	+ 1	0
3986	8.3	75.7	99.6	2	- 1	0	4046	7.7	79.0	00.9	4	+ 4	- 2	4106	9.0	76.2	02.0	5	0	0
3987	9.5	82.2	00.4	4	- 7	0	4047	9.5	87.5	99.5	3	+ 1	0	4107	9.1	76.2	02.5	3	- 2	+ 1
3988†	5.0	84.8	00.8	3	+ 6	- 3	4048	9.0	75.4	99.5	3	+ 4	0	4108	9.1	76.5	01.7	7	- 4	+ 1
3989	9.3	75.7	01.8	3	- 3	+ 2	4049	7.8	82.9	00.9	4	+ 3	0	4109	8.9	76.8	01.7	7	+ 5	0
3990	9.4	76.7	00.4	4	- 4	+ 1	4050	9.0	76.2	99.5	3	+ 1	- 2	4110	9.3	81.2	00.7	5	0	+ 4
3991†	8.8	76.4	01.8	3	- 8	- 13	4051†	8.0	75.2	99.8	2	+ 17	- 28	4111	9.5	78.2	02.7	4	- 6	+ 4
3992	8.0	76.6	01.8	3	+ 6	+ 1	4052	9.3	80.2	99.5	3	- 2	- 1	4112	8.7	79.8	02.0	5	+ 2	+ 2
3993	9.2	78.9	00.8	3	+ 2	+ 3	4053	7.4	75.2	01.1	5	- 1	0	4113†	...	...	...	...	...	...
3994	8.5	73.9	97.5	3	+ 1	+ 1	4054	8.5	78.2	99.8	2	- 2	+ 6	4114	9.0	75.8	02.0	5	- 5	0
3995	9.1	81.2	01.6	4	0	+ 6	4055	8.4	78.5	99.8	2	+ 7	0	4115	9.1	77.9	00.4	3	0	+ 1
3996†	8.7	75.0	98.0	4	0	0	4056	9.0	79.7	99.8	2	+ 1	+ 2	4116	9.0	74.5	99.1	4	+ 8	+ 1
3997	8.0	78.2	00.8	3	+ 1	0	4057	9.2	85.2	02.4	6	- 3	+ 3	4117	8.0	74.0	97.1	2	+ 3	- 6
3998	9.3	78.4	97.5	3	+ 1	- 2	4058	9.5	77.7	99.8	2	+ 2	+ 4	4118	9.0	89.2	00.4	3	- 2	0
3999	9.0	75.2	01.8	3	+ 4	0	4059†	4.0	74.2	00.5	3	- 2	- 11	4119	8.5	75.7	97.1	2	+ 3	+ 3
4000	9.5	78.8	01.8	3	- 7	+ 2	4060	8.4	75.4	99.8	2	0	0	4120†	9.4	81.4	02.2	3	- 13	+ 5
4001	8.5	79.9	01.4	4	- 3	+ 1	4061	9.0	74.8	99.9	4	- 2	- 1	4121	9.4	76.2	98.2	3	- 3	+ 3
4002	9.3	81.2	98.0	4	- 6	+ 1	4062	8.9	78.2	99.8	2	+ 2	- 2	4122	9.4	75.9	97.8	3	+ 1	0
4003	8.9	75.7	99.7	2	- 1	- 4	4063	8.9	75.2	99.8	2	+ 4	- 1	4123	9.3	76.8	00.4	4	+ 5	- 3
4004	9.3	78.1	99.7	2	- 4	0	4064	9.2	77.8	99.8	2	0	- 1	4124	9.5	79.5	01.1	3	- 3	+ 3
4005†	8.9	75.2	99.7	2	+ 2	- 2	4065	8.7	76.0	02.7	3	- 1	+ 2	4125	8.7	83.5	00.4	4	+ 5	0
4006	9.0	74.5	00.8	3	- 2	0	4066	9.0	81.2	98.2	3	- 1	0	4126	8.2	78.5	01.7	4	+ 3	- 1
4007	8.2	80.9	01.8	3	+ 2	- 2	4067	9.3	82.2	01.2	3	0	+ 4	4127	8.9	75.9	02.8	3	+ 2	0
4008	9.1	84.5	99.7	2	+ 1	0	4068	9.4	78.7	99.8	2	- 3	+ 2	4128	9.0	76.7	98.2	3	- 1	- 8
4009†	8.1	75.9	02.1	3	+ 4	+ 1	4069	8.5	77.9	99.8	2	+ 3	- 2	4129	9.1	89.9	02.2	2	- 4	+ 2
4010	8.7	75.6	01.4	7	+ 5	- 1	4070	9.0	87.7	99.6	3	0	0	4130	9.0	93.2	01.7	4	0	- 4
4011	9.3	80.7	99.7	2	- 8	- 2	4071	9.0	75.5	00.5	3	+ 2	- 1	4131	9.4	80.2	03.7	2	- 3	+ 2
4012	9.0	76.2	99.7	2	+ 3	0	4072	9.0	78.9	99.6	3	- 3	+ 1	4132†	5.0	85.2	02.2	2	+ 9	- 14
4013	9.3	77.2	99.7	2	- 3	+ 2	4073	9.3	78.2	99.8	2	+ 4	0	4133	9.4	80.2	97.1	2	- 8	+ 5
4014	9.3	80.2	99.7	2	0	+ 1	4074	8.9	75.6	02.2	2	+ 2	+ 2	4134	8.9	77.9	01.1	3	+ 4	0
4015	8.5	78.0	99.5	3	+ 1	+ 2	4075	9.1	78.5	99.8	2	+ 1	- 1	4135	9.5	77.2	97.1	2	- 8	0
4016	8.8	79.2	99.1	1	0	0	4076	9.4	81.2	99.8	2	- 2	+ 2	4136	8.5	82.7	97.6	2	+ 1	+ 4
4017	8.3	83.9	99.1	1	+ 4	+ 1	4077	9.3	89.2	00.5	4	+ 4	- 1	4137	9.1	79.8	97.1	2	- 2	+ 3
4018	9.0	75.4	00.5	3	+ 2	0	4078	8.2	74.5	00.5	4	0	+ 1	4138	9.3	79.1	97.1	2	- 2	+ 3
4019	8.0	75.8	00.5	3	- 2	- 5	4079	9.3	82.7	00.5	4	- 2	- 1	4139	9.5	94.1	97.6	2	+ 6	+ 2
4020	9.4	81.5	00.5	3	- 9	0	4080	8.9	75.9	01.5	3	+ 3	- 1	4140	8.9	75.7	02.2	2	- 2	+ 3



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
4141	8.9	76.9	00.8	3	- 1	- 7	4201†	9.5	94.1	00.6	5	+13	+ 5	4261	8.1	76.0	98.7	2	+ 6	0
4142	9.0	90.2	99.2	1	0	0	4202	7.9	75.2	01.7	4	+ 7	- 2	4262	9.5	75.2	00.5	3	- 4	+ 2
4143†	6.3	84.2	98.2	3	+10	- 2	4203	9.0	79.5	02.2	2	+ 2	+ 2	4263	7.8	75.9	01.2	5	+ 6	- 4
4144†	9.4	82.7	97.6	2	-10	+ 2	4204†	8.8	89.2	97.5	3	- 3	+ 3	4264	8.9	74.9	97.8	3	- 3	+ 2
4145	9.5	74.2	00.8	3	- 2	+ 5	4205	9.1	78.7	02.2	2	+ 3	+ 4	4265	8.6	74.5	02.2	2	0	+ 2
4146	9.4	89.7	00.8	3	- 8	- 4	4206	8.3	74.8	99.1	4	0	+ 2	4266	9.3	81.2	00.4	4	0	+ 1
4147	8.6	81.2	00.8	3	+ 3	+ 1	4207	8.8	75.2	01.2	3	- 2	+ 1	4267	8.7	75.0	01.2	3	0	- 1
4148	9.1	80.7	97.6	2	- 2	+ 4	4208	8.7	75.6	00.8	3	+ 4	+ 1	4268	9.0	76.5	02.5	3	+ 6	- 1
4149	9.1	79.5	01.7	4	+ 4	- 2	4209	7.3	74.5	02.2	2	+ 4	+ 2	4269	9.5	75.2	97.9	4	- 4	+ 4
4150†	1.0	Fund.	01.1	3	-49	- 3	4210	9.1	79.9	02.2	2	+ 2	0	4270	8.7	75.9	00.4	4	+ 3	- 4
4151	9.0	81.5	01.1	3	+ 1	0	4211	9.3	80.2	02.2	2	- 6	+ 2	4271	9.4	75.2	02.5	3	- 3	0
4152	8.1	78.2	99.6	4	+ 2	0	4212	8.2	78.0	02.2	2	+ 6	- 2	4272	9.2	75.2	00.8	3	+ 2	+ 1
4153	8.9	78.2	99.4	4	+ 5	- 6	4213	9.5	78.9	02.2	2	- 5	0	4273	9.2	84.5	02.9	4	- 6	+ 2
4154	9.0	83.9	01.7	4	- 2	0	4214	8.0	80.2	99.1	4	+ 4	- 1	4274	9.2	77.4	03.0	4	- 4	- 1
4155	8.9	78.2	99.6	4	0	0	4215	9.0	75.7	99.1	4	+ 9	- 8	4275	8.7	75.4	02.9	3	- 1	- 7
4156	8.0	76.2	00.1	6	0	+ 1	4216	9.3	79.4	99.1	4	- 4	0	4276	9.4	83.8	02.2	2	- 9	+ 2
4157	9.2	79.9	02.2	2	- 2	- 3	4217†	9.5	73.2	00.7	4	-10	0	4277	8.9	76.2	02.6	5	+ 5	- 2
4158	9.4	84.7	99.6	4	- 1	+ 1	4218	9.5	78.2	01.7	4	- 2	- 2	4278	9.2	76.2	02.9	4	+ 1	0
4159	9.5	80.2	02.2	2	- 5	- 1	4219	9.4	80.9	96.6	2	- 6	+ 4	4279	8.9	79.9	02.2	2	+ 6	0
4160	9.0	84.2	99.6	4	+ 3	+ 4	4220	8.9	76.2	02.5	3	- 3	0	4280	8.7	75.0	99.2	2	+ 4	+ 4
4161	8.6	79.5	01.1	3	- 1	+ 1	4221	9.0	75.8	00.5	3	+ 7	- 1	4281	9.3	87.5	02.9	4	- 5	+ 3
4162	9.0	78.5	02.2	2	0	+ 2	4222†	8.9	75.0	00.8	3	+ 3	-10	4282	8.9	76.5	99.2	2	+ 1	- 2
4163	9.0	73.9	00.8	3	+ 4	- 2	4223	9.0	77.9	00.7	4	- 2	+ 1	4283	9.5	86.2	00.8	3	- 7	+ 2
4164	9.5	74.2	01.1	3	- 1	+ 1	4224	9.5	81.2	02.2	2	- 8	+ 3	4284	9.4	78.9	00.8	3	0	+ 2
4165	9.5	87.2	02.2	2	+ 8	+ 2	4225	9.5	82.2	01.7	4	- 8	+ 1	4285†	7.5	75.4	02.2	2	- 8	-105
4166	9.0	76.5	00.8	3	+ 4	- 4	4226	8.3	82.4	01.2	3	+ 1	0	4286	8.0	77.6	99.2	2	+ 3	- 5
4167†	9.5	80.6	02.2	2	-11	0	4227	7.2	76.2	01.2	4	+ 4	0	4287	8.9	78.5	99.2	2	- 2	- 4
4168†	9.5	80.2	02.2	2	-12	+ 6	4228	9.0	87.2	98.9	5	- 7	+ 3	4288	8.6	75.8	99.2	2	+ 4	0
4169	8.8	86.8	00.8	3	- 3	- 2	4229†	5.0	74.8	00.5	6	+ 5	- 2	4289	9.0	75.4	99.2	2	+ 2	- 2
4170	9.4	78.5	02.2	2	+ 1	0	4230†	8.0	76.0	00.1	4	+12	-12	4290†	6.6	75.7	99.2	2	+ 8	+ 2
4171	9.5	74.2	01.1	3	- 5	+ 4	4231	9.1	89.8	98.9	5	- 5	+ 2	4291	9.3	79.6	99.2	2	- 2	+ 1
4172	8.7	76.8	02.2	2	- 2	0	4232	8.3	75.7	01.9	3	+ 5	- 6	4292†	9.4	80.9	00.8	3	-10	+ 1
4173	7.5	75.9	01.1	3	- 2	+ 1	4233	9.1	74.8	98.9	5	0	- 2	4293	8.7	75.3	02.2	2	+ 1	- 1
4174	9.2	76.2	01.1	5	- 2	0	4234	9.2	76.6	01.2	3	+ 2	- 2	4294†	9.5	74.2	02.9	3	+10	+ 1
4175	9.0	73.9	00.8	3	+ 1	- 2	4235	9.3	82.2	01.7	4	0	- 1	4295	8.2	77.2	02.9	3	- 4	- 3
4176	9.5	74.1	01.1	3	- 2	+ 3	4236	9.5	78.0	98.9	5	+ 1	+ 2	4296†	7.0	74.9	99.9	4	+ 6	+ 2
4177	9.0	76.4	01.1	3	- 3	+ 1	4237	8.7	75.8	02.2	2	- 2	+ 1	4297	9.5	80.9	03.0	4	- 9	+ 2
4178	7.2	74.7	01.7	4	+ 6	- 3	4238	8.5	80.0	00.1	4	+ 2	+ 3	4298	9.4	82.7	02.9	4	- 3	- 1
4179	8.6	78.9	02.2	2	+ 8	0	4239	9.1	78.9	00.1	4	- 3	0	4299	8.7	74.2	02.9	4	+ 6	+ 1
4180	9.2	76.2	03.6	2	+ 3	- 7	4240	9.5	80.2	00.1	4	- 7	+ 4	4300	8.5	77.2	02.9	3	+ 3	+ 1
4181	9.4	77.7	01.7	4	- 1	+ 2	4241	9.0	78.0	98.9	5	- 5	0	4301	8.5	82.7	99.9	4	+ 4	- 4
4182	9.1	84.5	01.1	3	- 5	+ 1	4242	9.0	78.6	00.1	4	+ 2	+ 4	4302	8.7	83.9	99.9	4	0	0
4183	8.0	75.2	01.1	3	+ 1	0	4243†	7.4	76.9	01.2	3	-11	- 5	4303	8.0	76.5	00.7	5	+ 7	- 3
4184	9.1	76.2	01.1	3	- 2	+ 2	4244	8.7	75.7	00.5	3	+ 2	+ 2	4304	9.2	91.5	99.9	4	- 2	0
4185	8.3	75.5	01.1	3	+ 2	0	4245	9.1	81.2	97.1	3	- 1	+ 1	4305	9.0	90.7	99.9	4	- 6	- 1
4186	9.3	88.2	02.2	2	- 4	+ 2	4246	8.4	76.9	02.2	2	+ 8	- 5	4306	9.5	80.2	02.1	3	- 6	+ 2
4187	9.5	93.7	99.2	1	- 9	+ 2	4247	8.7	77.2	01.2	3	+ 4	+ 2	4307	9.0	93.5	02.7	5	- 1	+ 4
4188	8.6	74.7	00.9	8	+ 5	- 2	4248	9.4	75.1	00.5	3	+ 4	+ 3	4308	9.5	76.5	02.2	5	+ 3	- 2
4189	7.4	87.5	99.2	1	- 6	- 1	4249	9.4	82.2	01.7	4	- 4	- 4	4309	8.5	74.2	99.9	4	+ 2	- 1
4190	9.5	74.7	00.7	6	- 6	- 1	4250	8.6	75.4	00.7	4	+ 2	- 2	4310	9.2	82.2	02.1	3	+ 3	+ 2
4191	8.5	75.5	99.1	5	+ 2	- 1	4251	9.3	77.9	02.2	2	- 2	- 5	4311	8.5	82.0	00.5	3	+ 8	- 4
4192	9.0	74.2	00.7	4	- 6	- 1	4252	7.5	75.5	96.6	2	+ 5	- 2	4312	8.9	76.5	03.0	4	+ 1	+ 1
4193	9.0	75.9	01.1	5	0	- 2	4253	9.2	76.2	02.2	2	+ 1	0	4313	8.2	81.2	03.1	3	+ 1	+ 3
4194	7.0	83.7	00.7	4	+ 5	- 1	4254	8.6	78.0	02.2	2	- 1	+ 2	4314	9.4	87.2	00.5	3	- 8	+ 2
4195	9.1	76.5	00.7	6	- 5	- 1	4255	9.4	79.0	01.2	3	- 2	+ 2	4315	9.5	88.2	00.5	3	- 5	+ 6
4196	9.1	84.0	00.7	4	- 5	+ 2	4256†	9.5	81.2	02.2	2	-17	+ 7	4316	8.6	93.5	00.2	1	0	0
4197	7.2	75.7	01.1	5	- 1	0	4257	9.5	86.2	98.7	2	- 6	+ 2	4317	9.5	80.2	02.7	4	- 7	+ 7
4198	7.9	74.5	00.7	6	0	+ 3	4258	9.5	77.2	01.7	4	+ 1	+ 3	4318	9.5	80.7	04.1	2	- 4	+ 1
4199	8.7	83.7	00.7	4	0	+ 2	4259	9.0	80.0	02.2	2	- 2	+ 1	4319	7.5	75.9	01.4	4	+ 5	- 2
4200	9.5	80.7	02.5	3	- 2	+ 2	4260	8.6	80.2	02.2	2	+ 2	+ 2	4320	9.5	86.2	00.5	3	+ 1	+ 3



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\delta$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\delta$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\delta$ .	$\Delta\eta$ .
4321	8.7	83.4	03.1	4	+ 2	- 2	4381†	9.5	90.2	01.1	3	- 13	+ 2	4441	8.4	77.1	02.8	3	+ 2	+ 1
4322†	5.0	Fund.	02.7	5	+ 5	- 6	4382	9.4	81.2	01.1	3	0	+ 1	4442	9.1	73.9	97.5	3	- 2	0
4323	9.5	81.2	00.5	3	- 3	0	4383	9.3	77.2	01.1	3	+ 2	+ 1	4443†	9.2	91.2	01.5	3	- 10	+ 3
4324	8.7	77.8	03.0	4	- 1	+ 1	4384	6.7	76.0	02.5	2	+ 7	- 3	4444	9.4	80.2	99.4	4	- 6	+ 5
4325	9.2	86.7	02.7	5	+ 5	+ 6	4385	8.8	75.7	01.0	2	+ 6	- 3	4445	8.7	75.5	01.3	3	+ 3	- 2
4326	9.0	83.2	02.7	5	+ 2	- 1	4386	8.0	75.2	99.7	5	+ 4	+ 1	4446	8.8	78.2	97.5	3	- 2	+ 3
4327	9.0	87.2	03.1	3	- 5	+ 1	4387	9.1	88.5	02.1	2	- 6	+ 4	4447	9.2	75.9	99.2	3	- 1	- 1
4328	9.1	91.2	03.1	3	- 5	0	4388	9.3	79.0	02.1	2	- 7	+ 1	4448	9.0	78.4	02.8	3	0	+ 1
4329	8.9	79.2	00.2	1	+ 3	- 2	4389	8.0	79.0	99.7	5	+ 6	+ 1	4449	9.5	74.9	02.5	2	0	0
4330	9.4	79.2	02.5	2	- 4	- 4	4390	7.6	74.5	02.5	2	+ 2	- 3	4450†	9.1	76.5	01.4	4	- 4	+ 3
4331	8.7	81.9	02.5	2	+ 6	+ 1	4391	9.2	79.0	02.5	2	- 1	+ 3	4451	7.7	77.4	02.0	3	+ 7	+ 3
4332	8.0	76.7	00.2	1	+ 5	- 2	4392	7.8	75.5	01.1	3	+ 4	0	4452	9.0	73.7	00.2	4	- 1	+ 1
4333	8.7	84.2	03.0	4	+ 6	- 2	4393†	6.9	76.2	99.8	5	+ 5	- 1	4453	7.7	76.9	02.0	3	+ 3	- 2
4334†	9.0	82.5	02.5	5	- 10	0	4394	8.7	76.2	99.8	5	0	+ 1	4454	7.2	79.2	98.8	5	+ 7	- 4
4335†	8.9	75.7	03.1	3	+ 2	0	4395	9.2	82.2	99.8	5	- 4	0	4455	9.1	80.8	02.0	3	+ 4	0
4336	8.8	76.2	02.5	5	- 1	- 3	4396	9.0	75.9	02.5	2	- 1	0	4456	9.0	74.9	01.8	2	+ 4	+ 1
4337	8.9	80.6	03.1	3	+ 5	+ 1	4397†	6.0	75.0	99.7	5	0	- 26	4457	9.2	75.2	02.5	2	+ 3	+ 2
4338	8.9	75.7	00.5	3	+ 3	+ 2	4398†	9.2	81.9	99.7	5	- 1	- 5	4458	8.2	80.7	98.8	5	+ 4	+ 2
4339	9.3	85.2	02.5	2	- 7	+ 2	4399	9.1	82.7	01.4	4	- 2	+ 2	4459	9.0	75.2	02.0	3	- 2	- 1
4340	9.3	79.2	03.0	4	- 4	- 4	4400†	9.5	80.2	02.3	3	- 10	+ 1	4460	8.0	76.5	02.5	2	0	- 2
4341	9.3	84.2	03.1	3	- 5	0	4401	9.5	74.7	01.0	2	- 2	0	4461	7.1	77.2	99.8	5	+ 1	- 2
4342†	9.4	82.2	03.1	4	- 17	- 5	4402	9.2	78.9	02.3	3	- 1	+ 1	4462†	9.5	91.6	99.8	5	- 19	0
4343†	7.7	74.9	02.7	6	+ 8	- 1	4403†	9.4	81.2	01.6	3	- 11	+ 3	4463	9.0	73.9	97.2	4	+ 1	+ 2
4344	8.1	75.5	01.7	6	+ 4	0	4404	9.1	77.7	01.8	4	+ 5	0	4464	8.8	77.0	02.3	3	+ 1	- 1
4345	9.3	76.0	02.5	2	+ 1	0	4405	9.1	77.2	00.3	5	+ 3	0	4465	8.5	75.9	01.8	2	- 2	- 1
4346	8.9	75.9	01.5	3	+ 7	- 8	4406	9.3	76.5	99.1	3	- 2	0	4466	9.4	80.2	00.1	5	- 4	0
4347	9.2	75.7	01.1	5	- 2	- 1	4407	9.3	76.1	99.5	4	+ 2	0	4467	9.4	76.2	02.0	3	- 9	+ 3
4348	9.4	75.5	02.7	6	- 4	+ 4	4408	9.0	80.7	99.1	3	0	+ 1	4468	8.9	74.9	01.8	2	+ 1	0
4349	9.0	76.5	01.7	6	+ 3	+ 1	4409	9.2	82.2	01.6	3	- 2	+ 2	4469	8.8	74.5	02.0	3	0	+ 1
4350†	9.3	81.2	03.1	3	- 10	0	4410	9.5	78.9	02.8	3	- 5	+ 3	4470	9.1	75.7	99.8	5	0	0
4351	8.7	87.2	01.1	5	+ 2	+ 4	4411	8.7	74.5	99.1	3	+ 1	0	4471	7.1	76.0	01.4	4	0	0
4352	9.0	75.5	01.7	6	- 9	- 1	4412	8.5	77.7	01.7	3	- 7	- 2	4472	8.9	75.9	02.0	3	0	- 2
4353	9.0	79.2	03.1	3	0	+ 2	4413	9.3	75.9	99.2	3	- 1	+ 2	4473	8.3	76.9	01.8	2	- 4	+ 2
4354†	9.5	80.2	09.1	2	- 13	+ 2	4414	7.7	82.2	02.5	2	+ 7	- 4	4474	9.0	74.2	00.2	4	0	- 2
4355	9.1	76.5	02.7	6	+ 2	- 1	4415	9.1	85.6	02.1	2	0	+ 2	4475	8.3	80.8	01.5	5	+ 2	+ 3
4356	8.5	76.7	01.7	6	+ 5	+ 2	4416	8.2	79.2	02.5	2	+ 2	+ 1	4476	9.3	89.4	99.6	2	- 6	+ 4
4357	9.0	79.9	01.1	5	- 5	+ 3	4417	8.5	77.2	99.2	3	+ 2	+ 4	4477	8.4	76.6	00.2	4	- 3	- 2
4358†	9.3	88.6	01.5	3	- 12	- 1	4418	9.3	79.4	99.1	3	- 2	+ 4	4478	9.3	91.2	99.6	2	- 2	+ 3
4359	9.5	82.2	01.1	5	- 7	0	4419†	5.7	75.4	02.8	3	+ 7	- 1	4479	8.4	74.4	00.2	4	+ 4	0
4360	9.3	75.1	02.7	6	- 4	- 3	4420	9.2	85.9	02.5	2	+ 1	+ 4	4480	9.0	74.9	01.8	2	+ 1	0
4361	9.4	93.2	02.7	5	- 6	- 4	4421	9.0	78.0	99.1	3	- 3	0	4481	8.1	78.2	02.0	3	+ 3	+ 2
4362	9.1	75.9	03.1	3	+ 7	- 1	4422	8.4	77.8	01.0	2	+ 2	0	4482†	5.7	79.0	02.0	3	+ 3	- 27
4363†	9.5	76.2	02.5	2	- 12	- 1	4423	9.3	73.8	01.8	5	+ 3	+ 2	4483	8.9	75.9	01.4	4	+ 4	+ 2
4364	8.4	80.7	03.1	3	+ 5	- 2	4424	9.0	76.3	00.6	9	+ 1	+ 1	4484†	9.3	75.7	00.3	3	- 10	+ 3
4365	9.2	82.4	02.4	4	+ 1	+ 1	4425	8.7	75.0	99.4	5	- 1	+ 1	4485	8.3	85.2	00.2	4	+ 3	+ 2
4366	8.5	79.7	02.4	4	+ 3	- 1	4426	9.3	84.2	01.8	5	- 6	+ 2	4486	9.3	84.8	02.0	3	- 5	+ 1
4367	8.0	75.0	02.9	4	+ 6	0	4427	7.6	78.8	03.1	5	+ 5	- 1	4487	8.8	77.4	02.0	3	0	- 1
4368	9.1	76.9	01.4	4	- 1	- 2	4428	8.3	75.8	01.8	5	+ 1	- 1	4488	7.5	78.7	00.2	4	+ 3	- 1
4369	9.1	76.0	01.4	4	0	- 2	4429	9.0	74.7	01.0	2	+ 1	- 1	4489	9.0	74.2	98.9	2	0	0
4370	9.2	76.0	01.1	3	0	0	4430	7.6	74.8	00.3	6	+ 5	- 2	4490	8.7	75.5	02.0	3	0	- 1
4371	9.0	93.2	01.1	3	- 4	+ 1	4431	8.0	76.9	01.8	5	- 5	- 1	4491	8.5	75.4	01.4	4	+ 6	0
4372	8.9	78.4	01.0	2	+ 1	- 1	4432	8.7	73.7	99.4	5	0	0	4492†	9.0	93.2	01.2	5	- 16	- 2
4373	8.7	73.5	01.4	4	0	- 2	4433	8.2	82.7	99.9	4	+ 2	- 4	4493	9.0	78.2	01.2	5	+ 5	- 2
4374†	9.0	80.4	02.1	2	- 6	0	4434	8.9	85.2	99.7	2	0	0	4494	8.3	76.7	99.6	2	- 1	+ 2
4375	8.9	78.9	02.5	2	+ 2	+ 2	4435	9.5	76.0	02.5	2	+ 3	- 3	4495	8.3	77.7	00.3	4	+ 6	+ 3
4376	8.1	78.2	01.4	4	+ 2	+ 3	4436	9.0	77.9	01.6	4	0	0	4496	8.8	74.8	00.3	4	- 3	- 1
4377†	7.3	76.2	01.1	3	+ 2	+ 1	4437†	9.4	80.9	99.7	2	- 12	0	4497	8.5	74.4	00.1	5	- 2	0
4378	9.1	85.7	02.5	2	+ 4	+ 2	4438	9.0	75.2	01.5	3	+ 5	+ 1	4498†	8.9	79.6	00.4	6	0	- 8
4379†	9.1	86.2	02.1	2	0	- 19	4439	9.4	86.9	97.5	3	- 8	+ 4	4499	7.6	76.2	00.3	4	+ 4	- 1
4380	8.5	79.2	01.1	3	+ 8	0	4440	9.5	74.7	02.5	2	- 8	- 2	4500	8.2	75.5	99.4	7	+ 5	+ 1



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
4501	9.1	85.2	97.9	4	+ 3	- 2	4561	7.4	78.2	99.2	2	+ 6	- 3	4621	9.5	85.9	00.8	3	- 8	- 1
4502	8.4	78.2	98.4	2	+ 1	0	4562	8.9	74.9	99.2	1	- 2	- 3	4622	9.5	89.6	00.8	3	- 6	+ 5
4503	9.0	78.9	98.4	2	- 1	- 1	4563	8.9	78.6	99.2	2	+ 3	0	4623†	9.5	81.3	00.8	3	- 16	- 2
4504†	9.5	81.2	98.4	2	- 11	- 2	4564†	5.8	86.2	99.2	1	- 1	0	4624	9.4	88.7	00.1	3	- 5	+ 3
4505†	9.2	87.2	02.2	3	- 3	- 6	4565	9.5	75.2	00.7	2	- 7	+ 2	4625	9.4	84.5	00.2	2	- 3	+ 1
4506	8.9	74.7	98.4	2	0	+ 6	4566	9.5	77.2	00.7	2	+ 1	- 1	4626	8.5	82.4	01.6	2	+ 6	0
4507	9.1	86.2	02.2	3	- 5	+ 2	4567	9.3	85.9	99.2	2	- 4	+ 4	4627	9.2	86.9	98.1	2	- 6	+ 2
4508	8.8	77.6	99.6	4	- 2	+ 1	4568	9.5	79.5	02.1	2	+ 4	0	4628	9.0	81.4	00.1	3	+ 4	+ 1
4509	8.9	75.1	02.2	3	+ 4	- 1	4569	8.5	76.2	02.1	2	- 2	+ 1	4629†	8.6	79.2	00.1	3	+ 10	0
4510	9.1	75.6	98.8	3	0	- 2	4570	9.0	76.5	99.2	2	+ 4	0	4630	8.9	75.9	02.1	2	+ 1	+ 2
4511	8.6	76.3	00.3	3	0	- 1	4571	8.5	80.7	99.2	2	- 1	- 4	4631	8.6	77.6	00.1	3	+ 3	+ 3
4512†	8.2	74.2	98.8	3	+ 7	- 1	4572	8.9	81.2	99.2	2	- 2	0	4632	8.6	78.5	01.2	2	+ 7	+ 1
4513	8.7	75.9	98.4	2	- 2	0	4573	9.0	80.6	99.7	2	+ 2	+ 4	4633	9.5	74.2	98.1	2	- 6	0
4514	9.1	87.9	02.2	3	- 2	+ 1	4574	8.9	86.2	99.2	2	- 4	+ 2	4634	8.6	78.6	02.1	2	+ 4	- 1
4515	9.1	88.5	05.2	1	- 5	- 2	4575	9.1	75.5	00.7	2	+ 4	0	4635	9.4	82.5	02.1	2	- 6	- 2
4516	9.0	74.2	02.2	3	+ 4	- 1	4576†	9.2	93.2	99.7	2	- 14	+ 1	4636	9.3	73.7	01.2	2	+ 2	+ 3
4517	9.1	74.9	98.9	2	+ 2	+ 2	4577	9.0	76.6	99.2	2	+ 2	+ 2	4637	8.8	74.0	98.1	2	0	+ 2
4518	9.0	74.0	98.9	2	+ 4	0	4578	8.5	79.9	02.2	2	- 6	+ 2	4638	8.7	77.9	98.1	2	+ 2	0
4519	9.1	88.7	02.2	3	0	+ 4	4579	8.5	82.2	99.7	2	+ 3	+ 2	4639	9.4	77.9	99.9	4	+ 3	0
4520	8.4	81.9	98.4	2	+ 2	- 2	4580†	9.4	93.2	98.8	3	- 17	- 1	4640	9.5	73.3	01.6	2	- 2	+ 3
4521	8.4	82.2	01.4	4	+ 2	+ 1	4581	8.5	83.2	00.2	3	+ 6	- 5	4641	9.3	86.2	02.1	2	- 4	+ 2
4522	7.8	86.9	05.2	1	+ 4	+ 6	4582	8.0	74.8	98.5	3	- 1	+ 1	4642	8.9	81.2	98.1	2	+ 2	+ 1
4523	8.9	76.0	98.9	4	+ 2	0	4583	9.4	74.7	00.9	3	0	+ 2	4643	9.1	80.7	98.1	2	- 6	+ 1
4524	9.5	90.3	01.5	4	- 3	+ 5	4584	8.7	82.3	98.5	3	+ 8	+ 1	4644	8.5	75.2	01.8	3	+ 3	- 2
4525	7.7	75.5	00.6	4	+ 4	- 5	4585	8.4	76.7	98.5	3	0	- 1	4645	8.7	78.2	02.1	2	+ 6	+ 1
4526	8.0	73.9	98.1	2	- 3	0	4586	9.0	75.5	00.9	3	+ 1	0	4646	9.5	82.7	00.2	2	- 8	+ 4
4527	8.5	74.6	98.9	4	+ 3	+ 1	4587	9.2	81.9	99.2	1	0	+ 2	4647	9.5	79.2	00.2	2	0	- 2
4528	9.5	75.7	98.9	4	- 1	+ 2	4588	8.5	80.6	00.9	3	+ 1	- 4	4648	9.5	85.2	02.1	2	+ 2	0
4529†	6.1	82.7	98.1	2	+ 2	- 5	4589	8.9	75.0	01.8	5	- 2	0	4649	8.5	79.2	00.2	2	+ 3	+ 2
4530	9.2	87.9	00.2	5	- 1	+ 3	4590	9.4	76.2	98.5	3	- 1	+ 1	4650	9.5	76.0	98.5	3	- 2	+ 3
4531	8.4	75.5	98.2	2	+ 3	+ 2	4591	9.3	88.2	00.2	3	- 1	0	4651	8.9	74.7	02.1	2	+ 4	0
4532†	5.5	76.5	97.7	2	+ 4	0	4592	9.0	75.8	98.2	2	- 2	+ 6	4652	9.0	85.2	02.1	2	+ 6	+ 2
4533†	6.9	77.2	05.2	1	- 5	- 4	4593	9.3	79.9	01.2	2	- 5	+ 2	4653	9.4	81.7	98.5	3	- 2	+ 2
4534†	7.5	85.9	...	...	...	...	4594	9.4	74.2	98.2	2	- 1	+ 1	4654	9.0	82.0	02.1	2	- 3	0
4535	8.5	85.2	99.6	1	- 6	0	4595	8.5	74.9	98.2	2	+ 3	- 1	4655	8.7	77.6	01.8	3	+ 2	- 2
4536	9.0	75.2	99.9	3	- 1	0	4596	9.0	87.6	99.2	1	0	- 4	4656	9.4	86.8	02.1	2	- 3	+ 2
4537	9.1	92.3	02.2	2	+ 8	0	4597	9.4	91.2	99.2	1	- 4	+ 9	4657	9.5	81.7	02.1	2	- 8	+ 1
4538	9.5	86.2	02.2	2	- 4	+ 1	4598	8.3	76.1	01.8	3	+ 2	- 1	4658	8.9	84.2	01.6	2	+ 7	- 2
4539	8.8	76.5	97.7	2	0	0	4599	8.7	75.7	02.1	2	- 4	+ 2	4659	9.0	74.2	98.5	3	- 1	+ 3
4540	9.5	74.2	98.2	2	- 4	- 2	4600	9.1	75.8	00.2	2	+ 2	0	4660†	9.0	74.7	99.9	4	0	0
4541†	8.7	80.5	97.7	2	+ 3	+ 1	4601	7.8	76.3	98.1	2	+ 1	+ 1	4661	9.0	81.2	02.1	2	0	+ 1
4542	8.8	76.1	99.6	2	0	0	4602	9.1	82.6	02.1	2	+ 2	+ 1	4662	9.1	79.7	02.1	2	+ 1	- 2
4543†	9.2	76.3	02.2	2	- 11	- 2	4603	9.0	93.2	99.2	1	- 5	- 3	4663	8.8	74.4	99.9	4	+ 1	+ 3
4544	9.5	77.9	98.2	2	- 3	+ 2	4604	8.4	75.8	01.2	2	- 1	- 2	4664	8.8	85.7	02.1	2	- 4	- 2
4545	8.9	75.2	98.2	2	- 2	+ 2	4605	9.5	90.2	99.2	1	+ 4	0	4665	8.6	74.5	98.5	3	- 2	- 2
4546	8.1	73.7	05.2	1	+ 3	+ 4	4606	9.0	73.2	98.1	2	+ 5	- 2	4666	9.1	77.0	99.2	2	+ 4	0
4547†	5.8	85.6	05.2	1	+ 2	- 1	4607	8.8	81.2	99.9	4	+ 6	- 1	4667	9.5	79.3	01.2	3	- 2	+ 1
4548	8.9	86.0	98.2	2	0	+ 3	4608	9.5	76.2	02.7	3	+ 4	+ 2	4668	9.0	75.6	01.8	3	- 3	- 1
4549	8.0	74.2	00.1	3	+ 4	- 2	4609	6.5	75.9	01.2	2	+ 6	- 4	4669	8.8	74.4	00.8	3	+ 5	- 1
4550	9.4	74.9	98.2	3	+ 3	0	4610	8.9	78.0	01.2	2	- 2	+ 4	4670	7.6	74.9	00.6	3	+ 3	- 3
4551	9.1	87.9	02.2	2	- 3	+ 1	4611	8.7	75.8	99.2	4	+ 4	0	4671	8.6	77.2	01.2	2	+ 1	+ 2
4552	9.4	81.0	00.1	3	- 4	+ 2	4612	7.8	74.4	98.5	3	+ 6	+ 1	4672	9.0	78.2	01.2	2	- 5	0
4553	9.4	78.2	99.2	3	- 5	+ 5	4613	9.2	74.4	00.8	3	+ 2	0	4673	9.1	78.3	01.2	2	- 4	+ 1
4554	7.0	86.2	02.2	2	0	0	4614	9.1	86.2	99.9	4	+ 3	- 1	4674†	8.5	74.7	00.8	3	- 8	- 26
4555	6.9	75.1	97.8	3	+ 1	- 4	4615	9.1	88.2	98.5	3	0	+ 3	4675	9.1	85.2	00.2	2	- 4	+ 6
4556	8.7	74.0	00.7	2	+ 4	- 3	4616	9.1	89.2	00.8	3	+ 2	- 1	4676	8.9	74.5	01.8	3	- 1	- 2
4557	9.0	74.2	01.2	3	+ 4	+ 2	4617	9.3	77.8	01.2	3	- 3	+ 2	4677	8.6	77.9	02.8	3	+ 6	- 3
4558	9.0	75.0	02.1	2	0	0	4618†	7.5	76.5	98.5	3	- 4	- 13	4678	8.6	79.8	02.1	2	0	0
4559	8.4	76.5	99.2	2	+ 2	+ 2	4619†	9.0	75.2	03.1	4	- 27	- 5	4679	7.2	73.7	01.2	2	- 3	+ 6
4560	8.4	77.0	99.2	2	- 2	- 3	4620†	9.5	81.2	00.8	3	- 14	0	4680	8.9	81.7	00.4	4	- 2	0



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
4681	9°0	85°2	02°1	2	+ 2	+ 9	4741	9°0	74°2	98°1	3	- 4	0	4801	8°8	76°7	01°2	3	+ 2	0
4682	8°2	84°9	01°2	2	+ 8	- 2	4742	8°3	75°7	01°5	3	- 2	- 1	4802	9°2	89°3	01°2	3	+ 2	- 3
4683	7°9	78°5	00°4	4	+ 4	+ 6	4743	8°5	77°7	98°9	4	- 1	- 6	4803	8°5	77°0	99°3	2	+ 1	0
4684	7°0	89°9	00°2	4	- 1	+ 2	4744†	7°0	78°0	98°2	2	+ 13	- 4	4804	9°0	76°3	99°6	2	+ 3	0
4685†	9°0	73°2	00°4	4	- 12	- 3	4745	9°0	77°3	01°6	3	0	- 2	4805	9°1	85°2	98°7	2	0	+ 5
4686	8°1	77°2	99°7	4	+ 2	- 4	4746†	9°5	92°3	01°6	3	- 10	+ 1	4806	8°9	74°2	01°2	3	- 1	0
4687	7°5	81°6	02°1	2	+ 1	0	4747	8°9	79°0	01°6	3	0	- 3	4807	6°5	76°4	98°7	2	+ 8	0
4688†	4°1	Fund.	02°1	2	+ 1	- 5	4748	8°8	75°0	99°6	2	- 4	+ 2	4808†	9°3	84°2	01°0	3	- 11	+ 3
4689	8°5	77°9	99°2	2	+ 3	0	4749	9°2	78°2	01°0	5	- 3	0	4809	8°0	76°0	99°6	2	+ 2	- 1
4690	7°0	74°2	01°2	2	+ 4	- 4	4750	9°2	81°7	00°9	4	- 6	+ 4	4810	9°0	74°9	99°6	2	+ 7	- 2
4691	8°6	79°7	00°2	2	0	+ 3	4751†	9°5	82°2	01°2	2	- 18	0	4811†	8°8	74°6	98°7	2	- 14	+ 3
4692	8°4	86°2	99°8	3	+ 2	+ 2	4752	8°9	75°8	00°9	4	+ 3	- 5	4812	8°7	80°2	01°2	3	+ 5	0
4693	8°4	86°8	99°2	3	- 3	- 2	4753	8°8	78°2	01°0	5	0	+ 1	4813	8°0	74°2	01°2	3	+ 3	- 1
4694	9°0	80°5	99°2	2	+ 1	+ 3	4754	8°2	76°5	00°9	4	+ 4	+ 1	4814	8°0	76°0	02°2	3	+ 3	- 1
4695	8°9	77°9	99°1	2	+ 2	0	4755	9°0	86°9	01°2	2	- 5	+ 2	4815	8°6	75°6	00°4	4	- 1	- 1
4696	9°3	80°5	99°2	2	+ 2	+ 3	4756†	8°7	75°1	01°0	4	+ 10	- 2	4816	9°0	75°5	02°1	6	- 6	- 4
4697	9°5	73°2	99°2	2	- 3	0	4757	9°0	77°7	01°8	3	+ 2	- 1	4817	9°3	79°4	01°4	5	0	+ 2
4698	9°1	86°5	99°8	3	0	0	4758†	7°7	74°2	01°2	3	+ 3	- 10	4818	9°0	79°1	01°4	5	+ 1	- 2
4699	9°5	85°2	98°2	2	- 2	+ 1	4759	9°0	86°2	01°2	3	- 5	+ 1	4819	8°9	81°2	00°3	2	+ 2	- 5
4700	9°5	86°5	99°2	2	- 5	0	4760	7°7	75°4	01°2	3	+ 1	+ 3	4820	9°0	76°5	00°3	2	0	+ 2
4701	9°0	75°0	98°2	2	+ 2	- 1	4761	9°1	90°1	00°4	4	- 5	- 2	4821	9°4	75°6	01°2	3	0	0
4702	7°5	76°2	99°1	2	+ 1	- 1	4762	9°1	86°2	01°2	4	- 3	+ 3	4822	9°1	85°2	01°2	5	- 7	+ 3
4703	8°4	77°2	00°2	2	+ 1	+ 2	4763	8°9	80°4	01°2	3	0	- 3	4823	8°5	74°6	00°0	4	+ 4	- 1
4704	8°4	75°2	99°6	3	+ 1	- 2	4764	8°1	75°8	99°6	2	+ 4	- 2	4824	9°5	80°0	01°4	5	- 9	0
4705	8°9	75°5	99°6	3	0	0	4765	9°0	74°2	01°2	3	+ 3	- 2	4825	8°7	75°2	02°2	2	+ 4	0
4706	9°0	75°5	98°2	2	0	- 2	4766	9°0	80°5	01°2	3	+ 5	+ 1	4826	8°7	75°8	01°2	3	+ 6	0
4707	7°7	77°1	00°2	2	- 3	- 2	4767	9°3	75°6	98°6	2	+ 4	- 1	4827	9°2	86°9	01°5	4	- 2	+ 1
4708	9°2	78°6	98°2	2	+ 2	0	4768	9°0	79°9	01°2	3	+ 2	+ 4	4828	8°9	75°1	02°1	4	+ 4	+ 2
4709	9°0	75°6	99°7	2	- 2	+ 2	4769	7°3	79°1	01°2	3	+ 1	+ 2	4829	8°3	75°9	01°2	3	+ 2	- 2
4710	8°2	82°2	99°1	2	0	+ 4	4770	8°9	80°0	01°2	2	+ 3	+ 2	4830	8°9	80°8	00°5	4	0	+ 2
4711	9°2	84°6	99°1	2	- 6	+ 2	4771	8°0	75°8	00°2	3	+ 4	0	4831	8°8	75°9	01°5	4	+ 2	+ 1
4712	9°0	77°2	98°2	2	+ 4	+ 1	4772	9°5	75°5	01°8	3	- 3	+ 4	4832†	6°0	85°3	01°1	3	+ 7	+ 2
4713	8°9	74°4	99°7	2	- 2	- 6	4773	9°3	76°8	01°2	3	+ 1	+ 3	4833	7°2	76°2	01°0	5	+ 3	0
4714	8°5	76°0	99°7	2	- 2	0	4774	9°0	86°2	01°2	3	- 3	- 1	4834	7°9	82°2	00°7	4	- 3	- 3
4715	7°4	77°6	99°7	2	+ 3	- 2	4775†	9°5	79°9	01°2	3	- 11	0	4835	8°4	75°9	02°3	3	+ 3	+ 6
4716	7°8	77°2	00°5	3	+ 5	0	4776	8°5	77°5	01°2	2	+ 5	0	4836	8°4	75°8	02°3	3	+ 1	+ 5
4717	7°9	76°2	00°5	3	+ 5	+ 1	4777	9°5	76°2	01°8	3	- 1	- 3	4837†	9°5	75°3	01°1	3	- 10	+ 2
4718	8°0	79°9	99°2	1	- 3	0	4778	9°1	85°2	99°6	2	- 4	+ 3	4838†	6°0	76°2	00°5	4	- 2	- 30
4719	8°5	81°0	99°7	2	+ 4	0	4779	9°5	73°2	98°6	2	- 2	0	4839	9°3	76°2	00°5	4	0	- 2
4720	6°5	74°9	99°2	3	- 4	0	4780	9°0	77°2	99°6	2	+ 2	+ 1	4840	9°1	85°9	00°3	2	+ 2	- 1
4721	9°0	75°2	00°6	3	+ 7	0	4781	8°7	76°5	01°8	3	+ 4	- 2	4841	8°4	74°7	01°0	5	+ 2	+ 2
4722†	6°0	76°1	99°2	3	- 34	- 17	4782	9°3	79°7	01°2	2	- 5	+ 2	4842	8°2	77°8	02°4	4	+ 4	+ 1
4723†	9°0	80°2	99°2	3	- 6	+ 3	4783	8°9	74°9	01°2	3	+ 2	+ 1	4843	9°5	82°7	01°2	4	- 3	- 2
4724	8°7	75°7	99°5	3	+ 4	+ 1	4784	8°9	78°2	01°6	5	- 2	+ 2	4844	9°1	82°9	02°2	4	- 1	+ 2
4725	9°2	78°9	99°7	2	0	- 1	4785	9°3	77°6	00°8	3	- 1	+ 4	4845	9°2	75°7	02°2	4	- 3	+ 1
4726	9°1	89°7	99°2	2	- 2	0	4786	9°0	77°2	00°7	4	0	0	4846	9°5	78°7	02°2	4	- 5	- 1
4727	8°6	78°0	01°2	4	+ 3	0	4787	9°0	75°0	99°5	3	+ 1	+ 3	4847	9°3	88°6	01°2	4	- 6	+ 2
4728	9°3	82°7	98°2	2	- 1	0	4788	8°2	79°3	00°7	4	+ 7	0	4848	8°7	76°5	01°0	5	+ 3	- 2
4729	9°0	80°1	01°2	4	0	+ 1	4789†	6°2	76°6	99°5	3	+ 5	- 4	4849	8°0	78°7	02°2	4	+ 2	- 1
4730	7°5	77°7	01°2	4	+ 1	0	4790†	8°9	78°1	00°7	4	+ 3	+ 2	4850	9°4	82°7	01°0	5	+ 1	+ 2
4731	9°4	74°2	99°2	2	- 4	0	4791	8°8	79°1	01°6	5	+ 1	+ 1	4851	9°2	80°5	02°2	4	+ 3	+ 2
4732†	7°0	75°6	01°5	3	+ 11	- 35	4792	8°9	75°5	99°6	2	0	+ 1	4852	9°0	77°9	01°2	4	+ 2	0
4733	9°0	73°2	01°6	3	+ 3	+ 2	4793	9°0	80°7	00°7	4	- 4	+ 2	4853	9°0	75°1	01°0	5	+ 1	0
4734	9°0	75°7	98°2	2	- 2	0	4794†	9°1	81°7	00°7	4	- 4	- 8	4854	9°3	74°2	00°9	3	+ 8	0
4735†	9°5	87°7	01°6	3	- 10	+ 7	4795	8°3	76°7	99°6	2	- 3	+ 4	4855	9°0	77°8	00°9	3	+ 1	0
4736	9°3	74°9	01°8	3	- 3	- 2	4796	7°2	75°2	00°7	4	+ 2	0	4856	8°4	75°9	00°2	3	+ 4	- 1
4737	7°2	74°2	01°5	3	0	+ 1	4797†	9°4	87°6	02°2	4	- 12	0	4857†	9°0	75°7	00°9	3	- 7	- 11
4738	9°0	80°4	01°5	3	- 2	+ 3	4798	5°4	74°4	02°2	2	+ 2	+ 2	4858	8°8	74°4	00°2	3	+ 2	+ 4
4739†	5°7	76°4	98°2	2	+ 2	- 2	4799	8°5	81°2	00°3	2	+ 2	- 2	4859	8°0	74°4	01°8	3	+ 5	- 1
4740	9°0	77°6	01°6	3	+ 6	+ 2	4800	8°9	75°6	99°6	2	+ 4	- 6	4860†	9°0	79°8	00°2	3	- 13	- 5



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
4861	9.3	77.2	02.4	4	0	-1	4921†	7.0	78.3	97.7	4	+7	-9	4981	9.5	82.7	00.3	2	-7	+4
4862	8.9	77.8	01.4	4	-4	0	4922	8.2	74.2	97.3	3	-2	0	4982	9.0	75.9	00.6	3	+7	-5
4863	9.0	76.6	00.9	3	+1	-3	4923	8.7	75.7	97.7	4	+2	+1	4983	9.3	82.7	00.3	2	-4	+4
4864	9.0	75.7	01.9	3	+1	0	4924	7.8	74.2	01.9	3	+3	+2	4984	8.8	74.7	99.6	2	0	0
4865	9.5	75.2	01.8	3	-3	0	4925	8.6	75.9	00.3	2	+1	-2	4985	8.5	85.7	00.6	3	+5	+2
4866	9.5	88.2	01.9	3	-7	+1	4926	9.5	86.2	97.3	3	-3	0	4986	9.3	73.2	00.2	3	+1	+1
4867	8.5	75.6	00.0	4	+7	-1	4927	8.5	79.7	02.2	2	+3	0	4987	6.8	76.3	00.3	2	+6	0
4868	8.9	76.9	01.0	5	0	-1	4928	9.1	84.2	02.2	2	-9	+1	4988	9.0	80.7	00.6	3	-2	+1
4869	7.5	74.2	99.2	1	+2	-2	4929	9.3	86.7	98.3	4	-8	+3	4989	8.6	81.4	00.3	1	0	-1
4870	9.0	74.7	00.0	4	-1	0	4930	8.0	74.2	96.3	2	0	0	4990	9.0	78.1	00.2	3	+3	+1
4871	8.3	77.3	00.0	4	+1	+1	4931	9.0	74.2	97.2	3	0	-2	4991	8.5	74.5	00.3	2	-4	-3
4872	9.0	89.0	99.2	1	-3	+2	4932	9.5	81.2	00.3	2	+4	0	4992	9.0	79.7	00.6	3	-4	-5
4873†	9.1	76.6	01.0	5	-4	-3	4933†	6.7	79.6	97.2	3	-3	+2	4993	8.5	75.6	00.6	3	+4	0
4874	9.1	85.3	01.9	3	+1	+2	4934	8.2	77.6	99.2	2	0	-3	4994	8.0	78.3	00.3	2	+4	0
4875	8.3	80.1	00.0	4	+2	+3	4935	8.1	75.3	98.7	2	+2	-2	4995	9.3	82.7	00.6	3	+1	+1
4876	9.0	74.0	01.2	4	-2	0	4936†	7.0	75.1	96.3	2	+4	-1	4996	9.2	86.8	00.6	3	-6	+5
4877	9.2	81.2	01.0	5	0	-1	4937	8.8	77.0	98.7	2	0	-1	4997	8.9	85.6	01.7	5	0	+6
4878	7.0	80.5	00.0	4	+2	-5	4938	7.3	80.1	99.2	2	-1	0	4998	9.3	74.5	00.6	3	0	-1
4879	8.5	74.6	01.2	4	+1	+2	4939	9.2	74.6	98.7	2	0	+4	4999	9.2	77.9	00.6	3	-1	0
4880	9.0	75.9	99.2	5	-3	0	4940†	4.0	74.5	96.3	2	+2	-5	5000	9.1	89.2	00.3	2	0	+2
4881	9.1	78.7	99.2	4	+2	+1	4941	8.4	76.2	00.3	2	+6	-2	5001†	7.0	80.2	00.3	2	-6	-13
4882	8.7	85.9	99.2	1	+2	+1	4942	9.0	73.7	99.6	2	+1	+2	5002	9.4	77.7	00.6	3	-3	+2
4883	7.9	75.6	01.2	2	+8	-2	4943	8.4	80.5	01.1	3	-1	+4	5003	9.5	73.2	00.6	3	-2	+3
4884	8.2	75.9	01.2	2	+2	-4	4944	8.0	80.5	97.2	3	+4	+2	5004	8.3	80.3	00.3	2	+2	+2
4885	9.0	78.3	01.2	2	0	0	4945	9.1	74.2	99.6	2	-2	0	5005	7.0	75.7	00.2	2	+2	-5
4886	9.0	75.2	99.3	2	-3	-2	4946	8.9	79.8	97.3	3	+5	+1	5006†	9.5	78.3	00.3	2	-13	-2
4887	9.5	74.3	01.2	3	+2	+2	4947	8.3	80.1	98.0	4	-2	-1	5007	8.8	74.7	02.2	2	-3	+2
4888	8.5	75.7	01.2	3	+2	+3	4948†	9.3	86.7	98.0	4	-15	+4	5008	9.5	75.7	99.9	3	-1	-2
4889	9.5	82.7	01.9	3	-2	-1	4949	8.6	76.6	99.6	2	+7	0	5009	9.0	75.3	00.0	4	+2	0
4890	8.7	74.9	99.3	2	-2	+2	4950	9.5	80.5	98.3	4	-9	+2	5010†	9.1	85.8	99.6	3	-9	+3
4891	8.9	76.2	01.2	2	-3	0	4951	9.2	75.9	98.0	4	+7	0	5011	8.0	74.5	99.9	3	+4	+4
4892	8.6	74.9	00.7	4	+4	-1	4952	9.1	79.6	98.0	4	-2	+2	5012	8.3	80.7	99.9	3	+2	-1
4893	6.7	80.2	01.2	4	+6	-2	4953	8.7	76.4	97.3	3	+1	0	5013	8.9	80.6	00.1	5	+4	+1
4894	9.4	76.6	01.2	2	-4	-1	4954	9.0	80.8	99.6	2	+1	-2	5014	9.4	85.9	01.2	2	+1	+6
4895	8.9	83.7	01.2	4	+4	-2	4955	8.2	76.2	99.6	2	-5	-4	5015	8.2	76.4	01.2	2	+3	-1
4896†	7.0	83.2	01.9	3	+9	-30	4956	9.3	86.7	99.6	2	-7	+4	5016	9.0	74.6	00.0	4	+1	-1
4897	9.0	74.2	00.7	4	-1	-2	4957	8.5	76.6	98.4	5	+3	-3	5017	8.5	78.2	01.2	2	+6	+1
4898	9.4	88.2	01.2	5	-3	0	4958†	8.6	79.4	96.3	2	+5	-8	5018	7.7	74.4	00.2	3	+3	0
4899	8.8	80.6	01.2	2	+2	+2	4959	8.5	76.1	99.2	3	-1	0	5019	8.8	76.2	00.3	2	+2	0
4900	9.0	85.9	02.5	3	0	+4	4960	8.5	74.7	99.6	2	+2	+2	5020	9.0	75.4	00.2	3	+1	0
4901	9.5	73.2	01.2	4	-8	0	4961	9.5	76.6	00.3	2	-9	0	5021†	8.8	78.5	02.2	2	+1	+2
4902	9.1	85.3	01.2	4	-3	+4	4962	9.1	75.6	96.8	2	+1	-2	5022	9.1	75.9	00.6	3	-5	+2
4903	9.2	85.8	99.2	4	-5	+4	4963	9.4	81.2	96.8	2	-2	+2	5023	9.5	79.3	00.2	3	-9	-1
4904	8.9	75.6	01.2	2	0	-1	4964	8.7	75.8	99.5	3	+2	+2	5024	9.0	75.6	01.2	2	+1	+1
4905	9.5	94.2	01.2	3	+5	-3	4965	9.0	75.5	96.8	2	+1	+2	5025	9.3	74.2	02.2	2	-2	+1
4906	6.8	74.2	99.3	2	+4	-2	4966	9.1	79.2	00.8	3	-2	0	5026	9.5	73.2	01.2	2	+1	-7
4907	9.0	75.2	02.5	3	-1	-2	4967	9.0	79.4	00.6	3	+2	-1	5027	8.9	78.9	01.2	2	+3	+2
4908	8.8	76.2	99.2	2	-1	-2	4968	8.5	74.8	96.8	2	0	+1	5028	8.8	83.0	02.8	3	-3	+1
4909	8.0	82.3	99.2	3	+3	0	4969	8.6	77.8	98.9	3	+3	-2	5029†	9.4	74.5	00.5	4	+10	-9
4910	9.0	75.6	01.2	3	-2	0	4970	8.9	76.2	98.7	2	-2	+2	5030	7.3	92.7	01.2	2	+2	-3
4911	8.7	85.2	00.6	3	+1	-2	4971	9.2	86.8	00.6	3	-7	+3	5031†	8.9	80.6	01.2	2	-10	-4
4912†	8.8	84.3	99.2	2	-11	+2	4972	9.5	73.2	00.3	2	+8	0	5032	9.0	85.0	01.2	2	+1	+2
4913†	8.1	74.9	01.2	2	+10	+2	4973	8.0	83.5	00.3	2	+1	+2	5033†	9.4	77.5	00.2	3	-1	-2
4914	7.6	74.9	99.2	2	+6	-3	4974	8.9	75.2	99.6	2	0	-4	5034	9.3	79.6	01.2	3	-3	+4
4915	9.0	93.2	01.2	2	-8	-2	4975	8.0	74.9	99.6	2	0	-2	5035	9.3	80.1	00.6	3	-4	-1
4916	8.5	77.2	00.3	2	+2	0	4976	9.3	73.2	00.3	2	-8	-4	5036	9.1	80.6	99.6	5	0	+5
4917	8.8	85.3	00.3	2	+1	+2	4977	8.3	74.2	08.7	4	+3	-2	5037	9.5	76.6	99.7	4	-7	+3
4918	8.8	74.2	99.3	2	+5	0	4978	8.5	85.2	01.1	3	-3	+1	5038	8.9	74.5	99.2	2	-1	-2
4919	9.0	76.1	01.9	3	-1	-2	4979	8.7	74.2	99.6	2	+6	+2	5039†	6.5	80.8	99.6	5	-1	-3
4920	9.1	85.9	00.3	2	-4	+2	4980	9.0	76.7	98.7	4	0	-1	5040	9.0	75.0	99.6	5	-4	-2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
5041	8.3	75.2	99.6	5	+ 1	- 1	5101	8.4	85.6	02.5	3	- 1	+ 1	5161	9.0	85.3	02.0	4	0	+ 2
5042	7.9	78.4	01.2	2	+ 4	+ 2	5102	9.3	82.6	98.3	3	+ 4	- 1	5162	9.2	77.5	95.3	3	- 4	+ 3
5043	9.4	78.2	01.2	2	- 2	+ 2	5103	9.0	85.9	01.7	4	- 5	- 1	5163	8.3	81.3	97.8	4	+ 5	- 4
5044	8.7	74.9	99.7	4	+ 3	+ 2	5104	9.0	93.2	00.4	6	- 1	+ 1	5164	9.3	73.3	95.3	3	- 3	- 9
5045	9.0	74.7	02.3	2	0	- 2	5105	9.5	77.4	01.2	5	- 3	+ 1	5165	8.7	77.0	01.5	4	+ 4	- 1
5046	9.4	90.7	00.3	2	- 2	0	5106	9.2	88.3	01.7	4	- 8	0	5166	9.1	81.3	01.6	3	- 5	+ 5
5047	9.0	73.9	99.2	2	0	0	5107	8.6	78.6	01.7	4	+ 6	0	5167	8.8	81.3	01.5	4	+ 3	- 5
5048	8.8	75.8	98.8	2	- 2	+ 1	5108	8.9	75.8	98.9	3	+ 1	0	5168	8.1	85.3	02.0	4	+ 3	- 1
5049	9.2	81.2	00.3	2	+ 2	- 2	5109	7.0	81.3	01.7	4	+ 4	+ 2	5169	6.5	79.0	01.2	3	- 7	- 2
5050	6.9	75.8	99.2	2	+ 4	+ 5	5110	8.9	81.3	98.3	3	- 4	+ 2	5170	9.5	76.6	98.8	2	- 2	+ 3
5051	9.0	74.7	02.3	2	- 1	- 2	5111†	9.0	77.5	98.3	3	- 3	+ 2	5171	8.5	75.9	99.3	2	+ 2	0
5052	9.2	75.7	01.2	2	+ 3	+ 1	5112	9.0	79.9	01.9	3	+ 1	+ 4	5172	9.5	79.3	94.8	2	0	+ 3
5053	9.0	77.6	01.2	2	- 2	- 4	5113	9.0	83.3	99.3	2	+ 3	- 3	5173†	7.9	76.2	00.4	6	- 27	- 3
5054	8.2	75.7	98.9	3	+ 2	+ 1	5114	8.8	83.7	99.3	2	+ 3	- 2	5174	8.7	79.5	97.0	4	+ 3	+ 3
5055	8.0	74.4	98.8	2	0	- 2	5115	8.5	84.4	99.9	4	+ 1	+ 3	5175†	6.0	85.3	03.2	3	- 1	+ 2
5056	9.0	75.9	01.2	3	- 1	- 2	5116	9.0	85.6	99.3	2	- 4	- 2	5176	9.0	74.2	00.2	4	0	- 1
5057	8.7	79.5	99.9	3	+ 1	- 1	5117	9.0	90.3	99.3	2	- 4	+ 4	5177	8.4	76.1	94.8	2	+ 5	+ 1
5058	8.9	77.7	99.9	3	- 5	+ 4	5118	8.6	79.8	97.8	2	0	+ 2	5178	8.9	78.9	01.6	3	- 5	+ 1
5059	8.6	78.4	01.2	3	+ 5	- 1	5119†	5.8	84.3	99.2	1	+ 5	- 11	5179†	7.5	80.5	97.2	3	- 8	0
5060	9.2	87.2	01.2	3	- 6	+ 3	5120†	8.6	85.6	01.9	3	+ 6	- 1	5180†	7.9	77.9	01.2	3	- 1	- 10
5061	7.9	74.4	01.9	3	+ 4	- 1	5121†	8.8	85.3	98.8	2	- 1	+ 3	5181†	9.5	75.9	99.3	2	- 13	+ 1
5062†	6.6	76.1	98.9	3	+ 5	- 3	5122	7.9	83.3	99.3	2	+ 6	0	5182	7.2	77.2	01.6	3	+ 8	+ 1
5063	9.5	76.0	02.3	2	- 2	+ 4	5123	9.0	83.3	01.7	4	- 3	+ 2	5183	8.5	74.7	02.0	4	- 1	+ 5
5064	8.4	78.2	02.3	2	- 2	- 2	5124†	8.0	81.3	98.8	2	+ 6	- 9	5184	8.5	77.6	02.0	4	+ 1	+ 3
5065	7.7	74.7	00.5	7	+ 2	0	5125	9.1	80.8	97.8	2	+ 2	- 6	5185	9.1	85.3	99.3	2	- 4	+ 2
5066	9.4	74.8	01.7	4	- 3	- 1	5126	7.4	84.3	01.2	3	+ 3	+ 2	5186	9.5	73.2	95.9	3	+ 2	- 1
5067	8.5	85.9	04.2	2	- 2	+ 3	5127	9.5	83.3	99.3	2	- 8	- 7	5187	9.4	75.9	97.5	4	- 2	+ 5
5068	8.6	75.2	00.3	2	+ 6	+ 1	5128	9.0	89.2	01.9	3	0	- 3	5188	9.5	76.6	97.3	2	+ 6	- 3
5069	9.0	73.6	04.2	2	- 2	0	5129	9.0	93.2	01.9	3	- 2	- 3	5189	8.7	76.3	97.5	4	+ 6	+ 3
5070	8.6	78.5	02.2	3	+ 4	- 2	5130†	4.0	Fund.	97.8	2	- 9	- 6	5190	9.5	74.9	98.8	2	+ 2	- 1
5071	8.9	75.8	02.2	3	+ 2	- 1	5131	8.9	82.7	01.9	3	- 2	- 3	5191	9.3	75.7	97.3	2	0	0
5072	9.0	75.3	01.2	2	+ 1	- 2	5132	7.2	84.6	96.3	3	+ 7	0	5192	9.3	77.0	97.3	2	0	+ 1
5073	9.2	81.6	98.8	2	- 4	+ 1	5133	8.7	89.2	96.3	3	0	+ 4	5193	9.0	76.2	01.2	3	0	+ 3
5074	8.8	85.3	02.2	3	- 1	- 2	5134	9.0	80.2	96.3	3	+ 2	+ 4	5194	9.5	77.6	01.7	4	- 7	- 2
5075	8.6	75.4	02.3	2	0	0	5135	8.3	83.8	01.9	3	+ 6	+ 3	5195†	9.5	85.3	98.3	4	- 8	+ 3
5076	8.9	88.9	02.2	3	+ 6	- 1	5136	7.3	79.3	01.2	3	+ 2	- 2	5196	8.8	75.3	98.9	3	+ 2	0
5077	9.0	81.9	02.2	3	- 5	0	5137	8.8	81.0	98.8	2	- 2	+ 2	5197	9.5	78.5	97.3	2	0	0
5078	9.1	80.5	00.3	2	- 2	- 4	5138	9.0	81.9	01.7	4	- 4	+ 1	5198	7.6	78.3	01.2	4	+ 8	0
5079	7.4	83.6	02.3	2	0	+ 2	5139	9.1	78.0	96.3	3	- 2	0	5199	8.1	75.3	98.9	3	+ 1	- 2
5080	9.2	87.3	00.3	2	- 4	+ 1	5140	8.0	77.5	01.9	3	- 5	- 1	5200	9.5	74.9	99.6	3	- 3	- 3
5081	7.3	78.3	01.2	2	+ 1	- 2	5141	8.9	75.9	98.8	2	0	+ 2	5201	8.5	74.3	00.0	5	- 1	- 4
5082	9.1	83.3	02.3	2	- 4	+ 4	5142	8.9	86.8	01.9	3	- 3	+ 1	5202†	8.7	74.9	98.0	4	- 12	- 3
5083	7.8	84.6	00.3	2	+ 6	0	5143†	7.4	81.0	96.2	2	+ 5	- 4	5203	8.4	76.9	00.0	5	- 1	+ 2
5084	8.8	80.5	01.2	3	- 3	0	5144	8.6	80.5	96.2	2	- 2	+ 1	5204	8.4	74.2	01.5	3	0	- 2
5085†	9.5	94.2	04.2	2	+ 15	- 6	5145	8.1	75.8	98.8	2	+ 8	- 1	5205	8.8	75.2	01.5	3	+ 1	- 2
5086	8.5	83.3	00.3	2	- 1	+ 3	5146	9.1	74.9	01.6	3	- 3	+ 1	5206†	9.4	93.2	01.5	3	- 10	- 1
5087	8.4	82.6	00.3	2	+ 2	- 4	5147	8.0	75.5	94.8	2	+ 3	0	5207	9.0	74.5	96.9	3	+ 4	+ 1
5088	9.5	94.3	02.5	3	+ 3	0	5148	8.6	78.9	96.2	2	+ 1	+ 2	5208	9.4	79.6	01.5	4	- 3	0
5089	9.3	76.0	99.3	2	+ 2	- 1	5149	8.7	75.9	96.2	2	+ 1	- 2	5209	9.0	76.0	01.2	3	- 1	+ 3
5090	9.0	76.6	00.3	2	- 1	- 2	5150	8.5	81.5	96.2	2	+ 2	0	5210	9.2	74.5	99.5	4	+ 1	+ 1
5091	9.5	75.8	02.3	2	- 6	- 2	5151	8.0	76.2	01.2	3	+ 5	- 2	5211	8.9	79.2	01.5	3	- 3	- 1
5092	7.7	74.5	01.9	3	+ 3	0	5152	9.0	75.9	01.6	3	+ 3	- 1	5212	9.2	79.1	00.6	3	- 4	+ 2
5093	9.1	74.8	02.5	3	- 2	- 1	5153	9.0	78.6	01.2	3	- 1	- 1	5213	9.0	77.4	01.5	4	+ 6	- 1
5094	9.2	83.3	02.5	3	- 5	+ 4	5154	8.5	81.0	99.2	3	+ 2	0	5214	6.8	85.3	02.2	4	+ 4	+ 3
5095	7.8	75.9	02.5	3	+ 3	- 2	5155	8.8	82.6	99.2	5	- 3	+ 1	5215	8.6	85.3	02.2	4	- 2	- 6
5096	8.5	74.2	02.6	3	+ 5	+ 2	5156	7.5	78.2	01.5	4	0	+ 1	5216	8.0	73.8	01.5	3	+ 8	+ 7
5097	9.5	81.0	99.9	3	- 4	0	5157	9.0	78.4	01.6	3	- 2	+ 2	5217	8.4	74.9	98.8	2	+ 1	+ 4
5098	8.6	79.9	02.5	3	0	- 1	5158	8.4	79.7	01.6	3	+ 5	0	5218	7.8	75.8	98.8	2	0	+ 1
5099	9.1	76.6	01.2	2	+ 6	- 2	5159	8.0	80.6	97.8	4	- 3	0	5219	8.8	75.8	01.2	3	+ 5	- 2
5100	8.9	78.7	01.7	4	+ 4	0	5160	9.2	78.4	95.3	3	- 2	- 2	5220	8.9	80.9	98.8	2	+ 6	+ 3



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
5221	8.8	81.9	97.3	2	0	0	5281	8.5	85.3	01.2	6	-2	+2	5341†	8.1	75.0	00.9	4	+1	-13
5222	9.1	89.8	01.4	5	-7	+1	5282	8.3	82.3	02.6	5	-3	0	5342	9.5	94.2	00.0	5	+8	+1
5223	8.0	73.3	98.8	2	+6	+3	5283	9.0	91.3	02.0	7	-4	+1	5343	8.8	78.5	00.9	4	-1	+4
5224	9.4	73.7	00.6	3	0	+1	5284	9.3	88.3	02.6	5	-1	+3	5344	9.2	79.0	98.8	2	0	+2
5225	7.4	74.8	01.7	2	-3	+2	5285†	9.1	85.3	01.2	5	-7	-8	5345	9.3	74.7	00.0	4	+2	+1
5226	8.7	78.5	01.7	2	+3	0	5286†	9.5	94.2	01.5	3	+15	0	5346	7.2	75.3	00.9	4	+2	0
5227	8.6	75.7	00.4	6	+4	-3	5287	8.7	84.3	02.0	4	+7	-4	5347	9.3	75.6	00.0	5	0	0
5228	8.7	75.8	01.2	3	+3	0	5288	9.4	85.3	00.0	4	-3	0	5348	8.7	76.8	00.9	4	-3	-1
5229†	8.6	74.8	01.2	5	-8	-10	5289†	7.7	84.3	00.0	4	+4	+6	5349	9.1	85.3	01.5	3	-2	0
5230	8.0	78.3	98.8	2	+1	+3	5290	6.7	79.3	02.9	3	+1	+2	5350	8.5	75.3	00.5	4	-4	+1
5231	9.1	80.5	01.2	5	0	-1	5291	9.3	89.8	01.5	3	-1	+2	5351	9.5	80.8	01.5	3	-9	+5
5232	9.1	85.3	01.2	5	-3	+4	5292	9.5	80.9	97.8	2	+6	+4	5352	8.5	75.1	01.2	2	+4	-2
5233	9.0	76.8	01.2	3	-1	-1	5293	8.9	78.3	01.5	3	0	-2	5353	9.4	78.3	00.2	3	-3	-5
5234	8.4	76.0	01.2	3	+4	-1	5294	8.9	81.6	98.8	2	+2	+3	5354	9.0	80.6	01.5	3	-8	+2
5235†	9.0	74.3	02.0	4	+10	-1	5295	8.9	76.9	98.8	2	+6	-1	5355†	8.2	80.3	98.8	2	+14	-2
5236	9.0	78.8	02.0	4	-2	-1	5296†	9.5	79.8	01.5	3	-2	0	5356	7.8	78.6	01.5	3	+2	0
5237	9.5	81.8	00.2	3	-3	-1	5297	6.7	77.3	02.9	3	+3	-2	5357	9.3	74.3	00.2	4	+3	+3
5238†	9.5	74.9	01.5	4	-1	+1	5298	8.2	77.5	04.7	2	+5	0	5358	8.9	76.1	01.2	2	0	0
5239	9.3	75.7	02.0	4	-2	+2	5299	8.7	75.3	97.8	2	+1	+1	5359	9.4	78.3	01.8	2	-8	+1
5240	9.1	74.0	02.0	4	-1	+3	5300	8.5	81.0	01.5	3	0	-2	5360	9.1	78.5	01.2	2	+2	0
5241	8.0	75.3	01.2	3	+7	-1	5301	9.3	75.2	04.7	2	-6	0	5361	8.4	75.3	98.8	2	-3	-2
5242	9.4	74.9	01.5	3	-4	-1	5302	9.0	75.5	01.2	3	+3	+1	5362	8.9	78.5	01.2	2	-2	-2
5243	8.6	85.3	01.7	2	0	+1	5303†	9.0	74.9	98.9	3	-12	-7	5363	8.8	74.8	01.2	2	-4	+2
5244	8.2	85.5	02.0	4	+5	+4	5304	8.7	76.3	01.2	3	+1	0	5364	9.2	74.5	00.2	4	+2	+1
5245	8.5	86.0	02.8	2	-6	-1	5305	9.1	85.3	01.5	3	-2	+3	5365†	8.9	75.1	01.5	3	+19	-8
5246	9.4	73.9	00.2	3	+5	+5	5306	8.8	83.0	01.5	3	-3	+3	5366	8.8	77.0	00.2	3	+2	0
5247	9.2	74.9	00.2	3	+1	-1	5307	8.4	74.5	97.8	2	+1	+4	5367†	9.5	94.2	01.8	2	+17	-2
5248	8.5	78.6	98.8	2	-4	-2	5308	7.3	75.6	01.5	3	+7	0	5368	9.5	85.3	00.2	3	-9	+2
5249	8.4	74.8	02.0	4	+4	-1	5309	9.5	81.6	01.5	3	-6	-2	5369	7.5	76.0	98.8	2	+8	-2
5250	9.4	82.7	01.2	3	-2	+3	5310†	9.4	83.3	01.5	4	-10	0	5370	8.8	74.2	00.0	4	+6	0
5251	7.0	78.6	01.2	3	+2	0	5311	7.7	75.9	01.2	3	+2	-2	5371	8.7	82.3	99.5	4	-1	+1
5252	9.4	78.3	00.2	3	-4	+2	5312	8.5	77.5	97.9	3	+2	-3	5372	9.1	86.8	01.2	3	-7	+3
5253	9.4	75.3	00.2	3	-1	+6	5313	8.4	76.0	97.9	3	+2	+2	5373	9.0	93.2	01.2	2	-2	0
5254	8.5	74.8	01.2	4	+4	0	5314	9.2	86.9	01.2	3	-2	+3	5374	9.4	80.0	01.8	2	-8	-4
5255†	8.0	75.3	00.3	5	+3	-6	5315	8.1	74.3	01.5	4	+8	-1	5375	8.8	77.0	00.0	4	-1	+1
5256	9.1	77.3	01.7	4	+3	-2	5316	9.2	74.3	03.2	3	-2	+3	5376	8.6	87.0	02.3	3	-1	+4
5257	9.3	82.7	01.2	4	-8	+6	5317	9.4	82.3	01.5	3	-9	-1	5377	8.0	74.6	01.6	3	+1	-1
5258	8.0	77.3	98.5	4	+3	+1	5318	8.8	74.8	98.3	5	-1	0	5378	9.1	78.6	01.2	2	+6	-1
5259	6.5	80.1	97.9	3	+4	+2	5319	8.8	73.9	99.7	2	-1	0	5379	7.1	75.1	01.8	2	+7	+1
5260	8.6	77.9	01.5	3	+3	+1	5320	9.0	76.5	01.7	4	+2	+2	5380	7.3	79.1	01.2	2	-4	+2
5261	9.0	81.8	01.5	3	-4	+2	5321	9.1	84.3	01.2	3	-2	-1	5381	9.5	77.6	00.0	4	-9	+2
5262	8.5	83.3	01.2	3	+5	-5	5322	9.5	92.4	01.2	3	+7	-2	5382	8.2	77.6	98.9	3	+3	-3
5263	9.4	76.0	98.5	4	-7	+4	5323	8.9	80.3	99.7	2	+4	-2	5383	9.5	76.3	02.0	4	0	+3
5264	9.5	78.0	03.5	4	-2	+3	5324	9.2	81.3	99.7	2	+4	+1	5384	9.1	74.6	01.7	2	-4	-1
5265	9.1	86.8	01.2	3	-4	0	5325	7.9	79.6	99.7	2	0	+2	5385	9.4	86.5	01.7	2	-8	-3
5266	9.0	75.6	00.2	3	+2	+1	5326	8.7	80.8	99.7	2	-3	0	5386	9.0	73.3	02.0	3	-2	+2
5267	9.0	82.0	03.5	4	+1	-1	5327	9.0	76.3	99.7	2	-2	+3	5387	9.0	85.3	02.3	4	-8	+1
5268	9.4	87.3	01.2	3	-4	+4	5328	9.0	75.8	98.8	2	-1	0	5388	9.0	75.5	01.2	2	-5	+1
5269	9.3	81.3	01.2	3	+8	+4	5329	8.8	83.3	99.7	2	-8	-4	5389	9.3	79.5	02.0	4	+1	-6
5270	8.8	79.8	00.2	3	-3	+3	5330	8.6	77.0	98.9	3	+1	0	5390	7.6	74.6	01.7	2	+4	-4
5271†	6.0	83.9	01.5	3	+2	0	5331	9.3	74.9	01.6	3	+4	0	5391	9.0	75.1	01.8	2	+2	-1
5272	9.0	79.8	00.0	4	-6	+3	5332	9.1	77.8	97.8	2	-6	-2	5392†	9.5	81.3	01.2	2	-9	+8
5273	9.0	81.3	04.7	2	-7	-2	5333	9.5	84.9	99.7	2	-6	-1	5393	7.8	75.0	02.0	4	+2	+1
5274†	7.0	80.3	01.5	3	+3	-8	5334	9.5	75.3	97.8	2	-6	+3	5394	9.4	82.3	02.0	4	-3	+6
5275	8.4	85.3	03.5	4	-2	0	5335†	9.5	73.3	99.7	2	-2	+12	5395	6.9	76.6	02.0	4	0	+4
5276	9.0	82.8	04.7	2	-6	+2	5336	6.9	75.1	98.6	3	+4	-3	5396	8.4	75.8	01.2	3	-2	-3
5277	9.0	82.8	98.8	2	-2	+2	5337†	9.3	86.8	01.6	3	-11	+1	5397	8.3	76.9	01.2	2	+4	-8
5278	6.2	81.3	03.5	4	-1	+3	5338	9.0	78.3	97.8	2	-2	0	5398	7.8	78.3	00.6	6	+5	-1
5279†	8.0	83.3	03.5	4	+7	-11	5339	9.4	74.6	01.6	3	0	-1	5399	9.5	94.3	01.7	2	+7	-3
5280†	7.5	86.3	00.0	4	+12	-12	5340	9.5	80.5	01.2	3	-7	+1	5400	9.0	75.0	01.8	2	+4	-2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\delta$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\delta$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\delta$ .	$\Delta\eta$ .
5401	9.3	73.2	00.6	6	- 6	- 2	5461	8.5	82.8	00.5	5	+ 9	+ 4	5521	9.5	91.6	98.2	2	- 6	+ 1
5402	9.4	75.8	99.8	5	- 3	0	5462	8.8	82.6	01.3	3	- 6	+ 2	5522	9.1	75.3	97.3	2	+ 2	+ 2
5403	9.5	90.0	00.6	6	+ 6	+ 3	5463	8.2	82.3	01.6	3	- 5	+ 1	5523	8.3	75.0	98.8	2	+ 6	+ 3
5404†	9.4	74.9	00.3	2	- 12	+ 4	5464†	9.4	83.8	99.3	1	+ 2	- 12	5524	8.9	79.3	97.3	2	- 7	+ 2
5405	9.4	74.3	97.7	4	+ 7	0	5465†	9.5	82.3	99.3	1	- 24	- 1	5525	9.1	79.3	99.5	3	+ 2	0
5406	7.3	75.8	98.2	3	+ 1	- 2	5466†	9.5	94.3	02.0	4	+ 13	+ 2	5526	8.3	75.3	01.7	2	+ 3	0
5407†	6.8	76.7	01.2	4	+ 20	- 6	5467	9.0	85.3	98.8	2	+ 4	- 1	5527	9.5	85.8	98.2	2	- 1	0
5408	9.0	75.3	01.2	4	- 2	+ 3	5468	8.0	84.3	01.6	3	0	+ 3	5528	9.0	85.3	95.8	2	+ 9	+ 3
5409	9.2	84.6	99.7	4	- 5	+ 2	5469	8.8	85.3	98.8	2	+ 6	+ 2	5529	9.5	73.8	98.8	2	+ 2	- 1
5410	9.5	74.9	00.3	2	+ 4	+ 2	5470†	5.3	81.3	02.3	3	+ 6	- 6	5530	9.5	73.3	96.6	3	+ 1	- 1
5411	9.4	87.3	01.2	4	- 2	+ 3	5471	9.5	87.8	99.2	3	+ 7	+ 1	5531	9.5	79.6	99.5	4	- 6	- 1
5412	9.5	75.8	00.3	2	- 3	+ 6	5472	9.2	87.3	98.8	2	- 5	+ 1	5532	9.5	73.3	96.6	3	- 3	- 3
5413†	9.0	79.6	98.2	3	0	- 10	5473	7.5	83.8	01.6	3	- 1	+ 4	5533	9.4	85.6	97.6	3	- 4	+ 3
5414	9.2	82.9	01.2	4	+ 3	- 1	5474†	9.1	92.8	98.8	2	- 10	+ 4	5534	9.4	74.0	97.3	2	- 2	- 1
5415	9.5	79.3	99.7	4	- 2	+ 4	5475†	8.9	82.3	02.3	3	- 7	+ 4	5535	9.1	77.3	98.2	2	+ 6	- 1
5416	9.3	77.8	01.2	3	+ 4	+ 2	5476†	7.9	84.3	01.6	3	0	- 10	5536	9.4	73.9	97.3	2	0	+ 2
5417	8.6	74.5	01.6	3	+ 4	- 4	5477	9.2	81.8	98.8	2	+ 4	- 1	5537	9.3	80.3	98.8	2	- 6	0
5418	8.9	76.9	00.3	2	- 6	+ 1	5478†	8.5	84.3	02.3	5	- 11	- 4	5538	8.6	85.7	02.0	4	+ 2	+ 2
5419	8.5	75.6	01.2	3	+ 3	- 3	5479	9.1	82.6	02.3	3	- 4	+ 2	5539	8.5	84.3	98.0	3	+ 2	+ 3
5420	8.5	75.3	00.6	5	0	+ 2	5480	9.1	88.8	98.8	2	0	+ 1	5540	7.8	78.0	97.2	3	+ 8	+ 1
5421†	8.0	75.0	99.6	5	- 2	- 4	5481	8.7	83.6	98.8	2	- 2	- 6	5541	9.5	78.9	01.5	3	+ 3	- 1
5422	9.0	75.5	99.6	5	+ 9	+ 2	5482	9.1	82.6	99.0	3	+ 2	- 2	5542	9.5	75.3	97.3	4	- 4	+ 2
5423	9.0	75.3	99.6	5	- 7	+ 2	5483	8.4	85.3	02.3	3	+ 2	- 1	5543	9.3	76.6	96.9	3	+ 3	0
5424	9.1	91.3	01.6	3	- 3	0	5484	8.8	80.6	99.3	2	- 3	0	5544	8.9	77.6	98.2	2	+ 2	0
5425	9.2	80.7	99.6	5	- 3	- 5	5485	9.4	78.0	00.0	4	- 4	0	5545	7.0	77.6	98.0	3	+ 3	0
5426	9.0	85.3	00.9	3	- 1	+ 1	5486	8.5	75.6	98.2	2	+ 6	+ 4	5546	9.0	93.3	98.8	2	- 5	0
5427	9.4	86.8	99.6	5	- 2	- 2	5487	8.9	74.5	99.0	3	+ 3	- 1	5547	8.4	73.9	01.7	2	- 1	+ 3
5428	8.8	75.9	00.7	8	+ 1	+ 1	5488	8.4	76.3	00.8	4	+ 4	+ 1	5548	9.5	83.0	99.5	3	- 6	0
5429	8.8	80.0	99.6	5	+ 4	+ 2	5489†	8.2	85.3	00.8	4	+ 10	0	5549†	6.3	74.3	01.7	4	+ 5	0
5430†	8.5	74.3	02.3	4	- 16	- 4	5490	8.5	74.3	98.0	3	+ 5	- 2	5550	9.0	76.5	97.2	2	- 2	+ 2
5431	8.6	86.0	02.0	4	0	0	5491†	9.0	85.8	98.0	3	- 11	- 2	5551	9.3	73.6	02.5	3	+ 5	0
5432	8.4	94.2	00.8	4	0	- 3	5492	9.4	93.3	01.8	2	0	- 1	5552	9.2	85.9	98.2	2	0	0
5433	9.5	74.3	99.3	1	+ 7	- 3	5493	8.5	77.3	98.8	2	+ 5	0	5553	9.3	91.3	01.7	2	- 9	+ 2
5434	9.4	76.0	01.2	3	- 5	+ 1	5494	9.0	85.3	97.3	2	- 1	0	5554†	4.0	74.6	02.5	3	+ 1	0
5435	9.2	83.3	03.2	3	+ 5	0	5495	8.8	81.3	98.8	2	+ 5	- 9	5555	9.4	79.3	02.5	3	- 5	- 2
5436	9.5	75.6	01.5	4	- 8	0	5496	8.8	80.3	99.2	1	+ 4	+ 1	5556†	9.5	80.8	02.5	3	- 12	0
5437	8.6	79.3	01.6	3	+ 4	- 1	5497	8.5	78.3	99.2	1	+ 1	- 1	5557†	8.9	81.9	98.8	2	- 10	- 4
5438	8.6	80.4	01.0	4	- 3	+ 2	5498	9.4	81.3	96.6	3	+ 2	- 1	5558	9.5	79.8	98.8	2	+ 2	+ 3
5439†	9.5	94.2	01.0	4	+ 14	+ 2	5499	9.5	76.0	98.3	2	- 3	0	5559†	8.4	77.3	98.2	2	- 25	- 10
5440	8.1	74.6	01.6	3	+ 2	+ 1	5500	8.9	77.6	97.3	2	- 1	+ 5	5560	7.0	75.3	01.7	4	+ 2	- 1
5441	8.4	74.3	03.2	3	+ 1	+ 1	5501	9.1	81.0	97.3	2	- 6	+ 4	5561	9.5	79.6	98.2	2	+ 6	+ 2
5442†	9.3	77.0	01.3	4	- 11	+ 6	5502	8.9	75.6	98.3	2	+ 6	- 2	5562	9.3	77.7	97.2	2	+ 1	- 4
5443	8.7	74.8	01.0	4	- 5	- 1	5503	7.4	74.6	95.8	2	+ 7	- 2	5563†	8.8	76.3	01.7	2	+ 36	- 17
5444	9.3	83.3	01.0	4	- 4	- 5	5504	9.4	76.3	98.0	3	- 3	+ 3	5564	9.5	90.3	01.7	2	- 5	0
5445	8.9	81.8	99.7	4	- 3	0	5505	9.0	80.3	99.3	1	- 6	- 9	5565†	8.6	74.3	00.0	5	+ 11	- 2
5446	8.9	83.8	99.7	4	+ 1	+ 1	5506	8.7	79.3	98.0	3	- 3	+ 3	5566	9.0	79.2	97.5	4	- 3	+ 2
5447†	6.7	80.5	01.3	6	+ 4	- 3	5507	9.4	81.3	97.3	2	- 4	0	5567	7.7	73.8	04.7	2	- 4	+ 8
5448	8.6	80.3	01.6	3	+ 2	+ 1	5508	9.2	80.0	01.9	3	0	+ 1	5568	8.8	76.9	00.0	5	- 2	- 5
5449	9.5	81.8	01.3	3	+ 5	+ 1	5509†	6.5	85.3	03.0	4	0	- 1	5569	8.7	76.0	97.5	4	- 1	+ 2
5450	9.4	84.3	99.3	1	+ 3	+ 4	5510	9.3	82.6	01.9	3	- 5	+ 2	5570	9.5	82.8	01.9	3	+ 3	+ 2
5451	7.5	77.5	00.5	5	+ 4	+ 3	5511	8.5	74.3	95.6	3	+ 4	- 1	5571	7.8	73.6	04.7	2	+ 4	+ 4
5452	9.3	85.6	00.5	5	- 9	- 3	5512	9.5	75.6	98.0	3	- 4	+ 2	5572	8.3	73.6	98.0	4	+ 1	0
5453	8.2	82.0	01.6	3	+ 2	+ 4	5513	9.0	83.7	97.6	3	- 3	+ 2	5573†	9.5	79.3	99.8	2	- 10	- 1
5454	8.0	83.3	01.6	5	- 5	- 1	5514†	6.3	76.0	98.2	2	+ 5	0	5574†	9.4	82.3	99.8	2	- 18	- 2
5455	9.4	85.8	00.5	5	- 3	0	5515	9.0	73.9	98.0	4	+ 6	- 3	5575	8.3	74.6	97.3	3	+ 4	- 3
5456	8.2	88.0	01.3	3	+ 1	+ 2	5516	8.9	75.6	98.2	2	+ 3	+ 1	5576	9.1	85.3	00.5	4	+ 1	+ 3
5457	9.1	78.6	01.6	3	0	+ 1	5517	8.7	73.6	96.6	3	+ 5	- 5	5577	8.6	76.0	00.8	2	0	- 2
5458	9.1	84.0	01.2	5	- 4	- 1	5518†	9.4	82.3	98.2	2	- 10	0	5578	9.4	82.8	00.8	2	- 1	0
5459	9.0	82.3	99.3	1	+ 1	+ 3	5519	7.7	79.3	97.3	2	+ 4	- 1	5579†	8.5	76.7	00.2	5	- 2	- 1
5460†	9.2	81.8	98.3	4	- 12	+ 6	5520	9.1	74.3	98.8	2	- 1	- 4	5580	9.4	82.8	97.3	3	- 3	0



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
5581	9.5	73.6	00.5	4	- 1	+ 2	5641	9.1	74.5	00.3	2	- 2	- 3	5701	9.1	77.3	03.8	3	+ 2	+ 5
5582	8.6	77.6	00.5	4	- 9	+ 5	5642	9.0	77.6	02.1	2	- 2	+ 5	5702	8.8	78.8	96.3	2	+ 1	+ 1
5583	9.1	85.3	00.5	4	+ 2	+ 1	5643	9.0	91.8	01.6	2	0	+ 1	5703	8.5	85.3	02.2	2	+ 2	+ 1
5584	9.3	82.7	97.3	3	- 8	- 1	5644	9.0	80.3	02.1	2	- 2	+ 2	5704	9.0	75.6	00.3	3	- 7	- 1
5585†	9.3	76.3	00.7	2	- 10	+ 4	5645	9.4	76.9	01.6	2	- 2	0	5705	9.0	75.6	99.3	1	- 9	+ 2
5586	8.7	75.6	00.5	4	+ 2	+ 1	5646	8.8	87.0	02.5	3	+ 1	+ 2	5706	9.4	79.3	00.5	3	- 8	+ 1
5587	8.9	76.0	97.8	4	- 5	- 4	5647†	6.0	74.9	00.2	4	+ 5	0	5707	9.1	83.5	02.1	3	- 4	0
5588	8.9	78.6	99.7	3	+ 3	+ 4	5648	8.3	78.0	01.6	2	+ 2	+ 2	5708	8.6	75.5	02.1	3	+ 2	- 3
5589	7.9	75.8	01.7	2	+ 2	0	5649	9.3	73.9	99.5	3	0	- 1	5709†	7.7	78.3	01.7	3	+ 10	0
5590	8.9	81.3	99.7	3	+ 4	0	5650	9.1	92.3	01.6	2	0	- 4	5710	9.0	75.3	00.2	4	+ 1	0
5591	8.1	77.6	99.7	3	+ 5	+ 3	5651	9.0	74.0	99.5	3	0	+ 1	5711	9.4	76.6	01.7	3	- 9	- 2
5592	9.0	85.3	99.7	3	+ 4	+ 1	5652	9.1	76.6	01.6	2	- 4	0	5712	9.4	74.6	00.6	2	0	+ 1
5593†	8.5	74.8	03.0	4	+ 8	- 15	5653	9.4	80.0	02.1	2	- 3	- 4	5713	8.9	85.3	99.3	1	+ 4	+ 1
5594	8.9	74.3	00.7	6	+ 5	- 1	5654	9.1	76.8	02.1	2	+ 4	0	5714†	9.5	74.8	00.0	5	+ 11	0
5595	9.2	74.6	00.7	6	+ 3	0	5655†	9.5	82.8	99.3	2	- 11	- 2	5715	9.0	76.8	01.1	3	+ 3	+ 1
5596	9.0	74.5	01.4	4	- 3	0	5656	8.9	74.5	00.2	3	0	- 3	5716	9.5	73.2	02.1	2	- 2	0
5597	8.4	76.0	01.2	3	+ 4	+ 1	5657	8.7	74.5	99.3	2	0	+ 2	5717	9.5	89.3	02.1	2	- 9	0
5598	9.3	85.3	97.3	3	+ 2	+ 1	5658	9.0	80.0	99.3	2	+ 4	- 1	5718	9.0	76.0	00.0	5	+ 1	0
5599	9.5	82.3	98.7	4	- 1	+ 1	5659	8.4	74.3	99.6	2	- 2	- 1	5719	9.4	73.8	99.3	2	+ 2	+ 2
5600	9.0	75.6	97.3	3	+ 1	- 1	5660	9.1	75.6	00.6	2	+ 4	+ 3	5720	8.7	76.2	00.6	2	- 4	+ 4
5601	9.5	74.3	98.7	4	- 9	+ 1	5661	8.4	75.1	99.6	2	+ 4	+ 2	5721	8.2	85.3	02.1	2	+ 7	+ 2
5602	9.2	75.3	02.1	2	- 7	+ 1	5662	9.0	76.0	00.6	2	- 2	0	5722	8.2	74.9	99.3	2	+ 4	- 2
5603	7.3	75.1	02.1	2	+ 1	0	5663	9.5	94.3	00.6	2	+ 8	- 7	5723	9.3	74.6	00.6	2	+ 4	- 2
5604	8.7	75.1	98.0	4	0	- 1	5664†	9.4	83.8	01.6	2	+ 5	- 1	5724	9.5	80.3	01.6	2	- 1	- 2
5605	8.6	80.3	98.9	5	+ 4	+ 1	5665	7.7	79.8	00.6	2	+ 2	+ 4	5725	8.1	85.3	02.8	2	+ 6	- 1
5606	6.9	81.0	97.3	3	+ 2	+ 1	5666	8.9	75.6	99.3	2	- 2	- 3	5726	9.4	86.3	00.6	2	- 4	+ 2
5607†	9.5	74.3	09.1	1	+ 4	+ 1	5667	8.1	79.0	99.3	2	+ 9	+ 3	5727	9.4	75.7	99.5	3	- 8	- 6
5608	9.1	75.6	01.1	2	- 1	- 2	5668	8.8	86.8	02.8	2	- 2	+ 2	5728†	9.5	80.6	99.6	2	- 10	- 2
5609	9.0	85.3	01.5	3	+ 1	0	5669	7.5	80.3	00.6	2	- 2	- 3	5729	9.1	88.0	00.6	2	- 2	+ 2
5610	9.4	90.8	02.1	2	+ 1	0	5670	9.2	79.3	00.0	4	- 7	0	5730	8.0	74.3	02.1	2	+ 5	- 1
5611	8.0	79.3	02.1	2	+ 4	0	5671	7.5	84.3	00.6	2	+ 3	0	5731	9.5	80.8	01.4	3	- 6	- 2
5612	8.5	76.8	01.1	2	+ 7	+ 3	5672	8.3	86.8	02.8	2	- 1	+ 1	5732	9.1	86.3	99.3	2	- 2	- 4
5613	9.5	79.3	01.2	2	- 9	+ 2	5673	9.5	88.0	00.6	2	- 9	+ 1	5733	9.0	80.7	99.6	2	+ 4	+ 1
5614	9.4	78.6	98.7	4	- 2	- 2	5674	8.4	84.3	00.0	4	+ 3	- 1	5734	9.0	86.7	99.3	2	+ 1	0
5615	9.5	75.3	99.8	2	+ 4	- 1	5675†	9.5	83.3	00.6	2	- 23	0	5735	9.0	86.6	02.3	4	- 5	+ 1
5616†	9.5	73.3	01.2	2	- 15	+ 3	5676	7.5	81.3	00.5	3	0	+ 2	5736	9.1	77.3	99.3	2	- 4	+ 4
5617	9.2	83.3	99.8	2	- 2	0	5677	9.0	89.9	00.3	3	- 1	- 1	5737	8.5	75.6	02.1	3	+ 1	0
5618	9.0	76.0	99.8	2	+ 1	- 1	5678	8.6	84.3	00.3	3	+ 2	- 2	5738	8.7	83.0	00.2	3	0	0
5619	9.3	88.0	02.1	2	+ 4	- 2	5679	9.1	76.3	00.5	3	- 9	+ 1	5739	9.1	74.6	00.2	4	+ 1	0
5620†	7.9	75.6	98.8	5	- 21	- 5	5680	8.3	80.3	00.5	3	+ 5	- 2	5740†	8.7	75.0	02.1	3	- 22	- 13
5621	9.2	79.1	98.8	5	0	+ 3	5681†	9.5	93.3	99.3	1	- 15	- 4	5741	8.3	79.3	99.5	3	+ 3	0
5622	8.9	74.0	99.8	2	+ 2	- 4	5682	8.8	85.8	00.6	2	- 6	- 1	5742	9.1	76.3	01.2	4	+ 4	- 2
5623	8.7	76.7	02.1	2	0	- 2	5683	6.8	80.0	01.6	2	0	0	5743	9.5	85.3	01.1	2	- 4	0
5624	9.0	75.6	01.1	2	- 7	- 4	5684	8.3	81.8	00.7	4	+ 1	0	5744	8.9	80.7	02.1	2	0	- 4
5625	9.2	77.6	98.8	5	+ 4	- 2	5685	9.0	85.8	00.1	4	- 8	+ 1	5745	8.8	76.3	01.1	2	0	0
5626†	9.5	82.3	98.8	5	- 10	- 1	5686	9.4	91.6	00.5	3	+ 6	- 2	5746	9.1	73.8	01.2	4	+ 1	+ 1
5627	9.5	94.3	97.8	4	+ 8	+ 4	5687	8.8	81.8	01.8	5	+ 1	- 2	5747	9.3	76.6	01.2	4	- 2	+ 2
5628	8.4	75.0	01.2	2	- 2	+ 2	5688	9.5	94.6	02.2	3	+ 4	- 3	5748	9.0	81.0	02.1	2	+ 1	- 2
5629	9.1	76.8	01.1	2	- 1	+ 4	5689	8.7	74.3	00.5	3	+ 1	- 2	5749	9.4	85.6	02.1	2	+ 4	+ 2
5630	8.9	77.6	99.8	2	- 2	+ 4	5690	9.0	75.5	99.3	1	+ 4	0	5750	7.0	78.6	99.9	3	+ 3	0
5631	8.5	77.7	99.8	2	+ 6	+ 1	5691	8.6	76.6	01.1	3	+ 3	+ 2	5751	9.0	74.6	99.9	3	+ 1	- 1
5632	9.1	79.5	99.8	2	+ 2	0	5692	9.1	80.6	00.5	3	- 3	+ 3	5752	9.0	81.6	99.9	3	+ 2	- 3
5633†	9.4	75.9	00.3	3	- 11	+ 1	5693	9.4	79.8	02.1	2	- 4	+ 6	5753	9.3	75.0	01.2	4	+ 5	+ 1
5634	9.0	74.5	01.5	4	+ 3	- 2	5694†	8.9	85.3	02.8	2	- 15	+ 4	5754	9.0	85.3	02.7	3	+ 1	- 1
5635	8.3	75.0	99.3	2	+ 2	+ 3	5695	9.5	83.6	99.8	4	- 9	+ 2	5755	8.0	76.0	99.6	3	+ 5	+ 1
5636†	7.2	76.5	02.6	3	- 1	0	5696	7.4	75.3	00.0	6	0	- 1	5756†	9.4	76.6	01.1	2	- 13	+ 1
5637	9.0	85.8	02.4	4	- 3	+ 3	5697	6.6	77.3	00.4	3	+ 3	- 1	5757†	8.5	76.6	99.3	2	- 12	0
5638	9.0	74.9	00.5	3	+ 8	- 1	5698	7.8	74.3	00.0	4	+ 8	+ 1	5758	7.1	76.1	01.5	3	+ 5	- 2
5639†	9.2	83.3	99.3	2	- 11	- 5	5699	8.3	79.1	00.4	4	0	- 2	5759	7.3	75.3	02.7	3	0	- 2
5640†	9.3	76.8	02.1	2	- 13	- 1	5700	9.3	81.8	01.6	2	- 4	- 2	5760	9.1	76.0	01.1	2	+ 3	0



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
5761	9.2	85.3	02.5	3	+ 5	0	5821	9.3	76.8	04.0	4	+ 6	0	5881	9.0	78.3	99.5	3	- 1	- 1
5762	8.6	80.3	01.8	4	+ 3	+ 1	5822	8.2	80.1	03.4	5	+ 5	0	5882	7.5	84.0	00.2	2	+ 9	- 2
5763	8.8	87.0	04.2	2	+ 2	0	5823	8.4	79.1	04.0	4	+ 2	- 2	5883	9.3	81.8	00.8	3	- 5	- 1
5764†	8.5	83.0	04.2	2	- 12	- 2	5824	9.4	75.3	00.6	2	0	- 2	5884	9.3	81.3	04.2	2	+ 2	- 5
5765†	7.9	76.1	99.6	3	+ 11	0	5825	9.0	74.9	01.8	3	- 4	+ 1	5885	6.9	76.0	01.5	3	- 3	+ 1
5766	9.3	85.0	99.3	2	- 6	+ 2	5826	9.5	74.6	00.6	2	+ 2	+ 5	5886	6.8	82.6	02.1	2	+ 8	- 1
5767	9.0	76.8	04.2	2	- 8	+ 2	5827	9.4	75.3	02.6	3	- 6	+ 5	5887	7.2	80.0	01.1	2	+ 7	0
5768†	9.3	75.0	99.3	2	- 16	0	5828	9.2	76.6	02.6	3	- 8	- 1	5888	7.5	85.4	02.6	3	+ 2	+ 4
5769	9.0	74.6	02.7	3	+ 2	- 3	5829	7.7	76.8	04.0	4	- 5	- 2	5889	7.8	78.8	01.1	2	0	0
5770	8.2	85.7	01.2	5	+ 5	+ 1	5830†	8.0	75.3	00.6	2	+ 10	- 1	5890†	9.4	83.3	00.2	2	- 13	0
5771†	9.4	86.7	02.5	5	- 10	+ 7	5831	9.5	75.6	04.0	4	- 7	0	5891	9.4	74.3	99.1	2	- 2	+ 2
5772	9.5	88.9	01.1	2	+ 6	- 7	5832	8.8	76.9	01.6	2	- 2	0	5892†	9.2	91.8	02.3	3	- 12	+ 4
5773	8.6	75.1	99.3	2	+ 2	0	5833	9.4	76.8	02.6	3	- 5	+ 4	5893	9.5	74.3	99.1	2	+ 5	- 3
5774†	8.2	75.3	99.3	3	- 2	+ 1	5834	9.4	85.3	02.5	3	0	+ 3	5894	9.5	73.3	02.3	3	+ 2	+ 2
5775	8.8	76.9	01.1	2	+ 2	+ 3	5835	9.0	75.7	04.3	2	+ 9	- 4	5895	9.4	74.3	02.5	3	- 3	- 1
5776	8.7	74.6	99.3	2	+ 7	+ 2	5836	9.1	76.7	01.6	2	+ 5	- 6	5896†	9.5	74.3	00.7	3	+ 15	- 1
5777	9.0	77.6	02.1	2	- 3	- 2	5837	8.8	75.7	04.0	4	0	- 3	5897	9.0	77.1	99.1	2	- 7	+ 4
5778	9.4	73.6	01.7	4	- 8	+ 1	5838	7.3	79.1	02.6	3	+ 6	- 1	5898	9.0	75.7	01.0	5	+ 8	- 3
5779	7.7	79.1	01.7	4	- 2	- 1	5839	7.4	77.0	02.6	3	0	- 2	5899†	9.4	80.6	97.5	4	- 10	- 1
5780	7.7	76.1	01.7	4	+ 3	+ 1	5840	8.4	76.1	04.1	6	+ 1	- 1	5900	9.4	76.8	99.7	5	- 3	+ 2
5781	7.5	76.5	02.7	3	+ 1	- 3	5841	8.9	77.0	01.6	2	+ 9	+ 3	5901	8.3	77.1	02.1	3	- 1	+ 3
5782	9.5	79.0	02.1	2	+ 4	- 5	5842	9.0	74.7	02.1	2	+ 3	- 4	5902	8.3	75.8	02.0	2	+ 5	- 2
5783	9.1	78.1	99.3	2	- 1	- 2	5843†	7.9	76.4	01.9	4	+ 12	- 3	5903	9.0	76.7	02.1	3	- 2	0
5784	8.4	78.7	99.3	2	- 6	0	5844	8.5	86.1	04.3	2	+ 2	+ 6	5904	9.2	84.3	98.4	5	- 5	+ 3
5785	9.5	85.3	02.1	2	- 4	+ 3	5845	8.8	76.6	00.5	3	- 7	- 6	5905	9.1	74.6	97.5	4	+ 4	- 1
5786	9.3	74.3	01.8	4	0	- 1	5846	7.3	76.7	01.1	2	+ 4	+ 3	5906	9.1	77.3	01.0	2	- 2	+ 1
5787	6.9	74.0	01.5	3	- 1	0	5847	8.0	74.6	01.1	2	- 1	+ 1	5907	9.0	77.7	01.3	3	+ 2	+ 2
5788	8.1	76.1	00.5	3	+ 2	+ 2	5848	8.3	75.1	02.2	2	+ 1	- 1	5908	8.8	85.3	02.2	2	+ 1	+ 2
5789	8.9	76.3	02.1	2	+ 4	0	5849	9.5	75.3	00.2	2	- 5	+ 6	5909	9.4	83.3	98.4	5	+ 4	+ 4
5790	7.1	76.9	04.2	2	+ 2	+ 1	5850†	9.5	73.3	04.0	4	+ 12	+ 17	5910	8.7	77.3	02.0	2	+ 4	+ 1
5791	9.2	91.8	99.3	2	0	0	5851	7.0	81.3	04.2	2	+ 2	0	5911	9.3	75.3	97.2	3	- 1	- 3
5792†	7.5	77.0	02.1	2	+ 5	- 6	5852	9.2	75.3	04.2	2	- 6	- 4	5912	9.2	75.7	98.4	4	+ 6	- 1
5793†	8.4	73.6	04.3	4	0	- 6	5853	7.5	85.3	02.9	2	+ 6	+ 1	5913	8.9	77.1	00.0	4	- 2	+ 1
5794	8.9	77.3	03.3	5	- 4	+ 2	5854	6.2	76.8	04.0	4	+ 7	- 1	5914	8.8	76.7	00.0	4	0	0
5795	9.3	77.8	99.5	3	- 5	- 4	5855	9.2	75.8	04.0	4	- 1	0	5915	9.1	84.3	97.2	3	- 7	0
5796	8.5	75.7	99.5	3	+ 5	+ 1	5856	9.3	78.6	01.5	3	- 5	+ 3	5916†	9.5	88.3	01.0	2	- 19	- 4
5797	8.8	76.5	00.2	4	+ 4	+ 1	5857	9.0	77.7	04.2	2	- 5	- 1	5917	8.9	78.5	97.2	3	+ 2	+ 3
5798	9.2	76.3	99.5	3	- 2	+ 2	5858	7.1	78.5	02.2	2	+ 6	+ 6	5918	9.0	76.0	02.1	4	+ 6	- 1
5799	9.0	75.0	01.6	2	- 4	+ 2	5859	9.4	78.3	01.5	3	+ 1	- 4	5919	7.0	76.4	00.0	5	+ 3	0
5800	9.1	75.3	00.6	2	- 2	+ 2	5860	9.4	76.8	01.5	3	0	- 8	5920	9.0	76.8	02.1	4	- 1	+ 1
5801†	8.6	85.6	02.5	3	+ 11	+ 2	5861	8.0	75.7	00.8	3	+ 7	- 9	5921	9.4	74.6	01.0	2	+ 5	+ 3
5802	9.0	85.6	02.8	2	0	+ 3	5862	9.1	77.7	01.2	2	- 3	+ 6	5922†	8.6	75.5	00.0	5	+ 7	- 11
5803	9.2	86.0	04.3	2	- 2	+ 2	5863	7.3	78.1	00.2	2	+ 7	0	5923	9.3	77.8	02.1	3	- 1	- 1
5804	9.5	75.3	02.6	3	- 4	0	5864	8.3	76.3	02.9	5	- 6	- 3	5924	7.0	76.5	02.1	2	+ 5	+ 1
5805	8.5	77.5	99.6	2	+ 3	0	5865†	9.5	84.3	02.9	5	- 12	+ 1	5925†	6.8	77.5	00.7	3	- 5	+ 1
5806	8.9	77.7	02.6	3	- 1	+ 5	5866	9.2	76.3	02.2	2	- 6	+ 2	5926	9.0	76.3	00.5	6	- 1	0
5807	9.3	89.3	00.6	2	- 6	0	5867†	9.0	89.3	00.2	2	- 18	- 2	5927	9.4	82.3	00.5	6	- 7	+ 3
5808†	8.2	76.9	01.6	2	+ 3	- 4	5868	9.4	74.3	01.2	5	0	- 1	5928	9.1	76.8	00.5	6	+ 3	+ 3
5809†	6.0	78.0	01.6	2	+ 5	+ 2	5869	8.4	80.3	02.2	2	- 2	+ 2	5929	8.4	75.7	00.7	3	+ 5	+ 2
5810†	8.7	75.3	00.6	2	+ 10	- 4	5870†	...	...	...	...	...	...	5930	9.2	74.6	97.9	4	- 3	- 1
5811	9.2	74.9	01.8	3	- 5	+ 1	5871	9.0	75.3	00.2	2	+ 7	+ 1	5931†	8.8	77.7	00.5	6	- 6	- 2
5812	9.4	89.3	00.6	2	- 7	+ 2	5872	9.5	75.3	00.2	2	0	+ 8	5932†	7.5	78.1	00.7	3	+ 5	- 11
5813	8.8	74.3	02.5	3	- 1	0	5873	9.0	75.3	02.2	3	+ 2	- 1	5933	8.8	75.3	02.1	2	- 3	+ 4
5814	7.0	76.5	04.0	4	+ 9	- 1	5874	9.0	80.1	02.1	3	+ 4	- 1	5934	7.7	76.3	02.1	2	+ 2	+ 1
5815	8.0	76.1	01.6	2	+ 4	0	5875	9.2	81.3	00.2	2	+ 3	+ 2	5935	9.5	85.4	02.6	3	- 8	+ 2
5816	8.9	76.3	03.1	5	- 1	- 2	5876†	8.7	74.3	00.2	2	+ 12	0	5936	9.3	78.6	97.9	4	- 1	+ 3
5817	8.1	75.7	01.7	4	0	+ 1	5877	9.0	86.0	01.1	2	- 1	+ 2	5937†	8.8	76.3	00.5	6	0	+ 1
5818	7.9	76.3	02.6	6	+ 6	+ 2	5878	9.2	78.7	00.8	3	- 5	0	5938†	7.8	77.7	98.5	4	+ 10	0
5819	8.3	76.7	01.5	4	- 7	+ 3	5879	7.6	76.8	02.2	3	+ 2	- 2	5939	9.0	85.3	98.5	4	- 3	+ 1
5820	9.5	76.8	01.8	4	- 7	- 3	5880	8.5	78.8	00.8	3	+ 1	- 1	5940	8.8	80.5	01.0	2	- 4	- 4



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
5941	9.5	77.3	97.2	3	0	+ 1	6001	7.0	77.5	00.6	5	+ 9	- 1	6061	6.8	78.0	02.9	3	+ 4	0
5942	8.2	80.7	01.0	2	+ 8	0	6002	9.5	75.1	00.5	4	- 4	+ 2	6062†	9.0	77.6	01.3	2	- 12	- 4
5943	8.9	75.3	01.0	2	- 2	0	6003	8.9	76.8	00.9	5	0	+ 2	6063	7.5	77.9	04.5	4	+ 9	- 2
5944	9.3	76.8	98.5	4	- 3	+ 1	6004	9.5	75.8	00.5	4	- 1	- 2	6064	9.2	84.3	01.3	2	+ 1	+ 2
5945	8.6	74.9	02.2	2	- 2	0	6005	8.8	80.8	99.6	3	+ 1	+ 1	6065	8.9	76.2	04.6	2	+ 2	0
5946	8.2	76.8	98.5	4	+ 2	- 1	6006†	9.4	85.3	01.3	2	- 10	+ 2	6066	9.5	74.3	00.6	2	0	+ 3
5947	8.2	76.3	01.0	2	0	+ 3	6007	8.9	78.3	00.3	3	- 2	0	6067†	6.5	76.7	01.3	2	- 8	- 9
5948	9.5	80.1	01.0	2	+ 1	- 3	6008	9.4	76.5	00.3	3	- 4	+ 2	6068	7.0	76.1	01.7	3	+ 7	+ 1
5949	9.1	75.8	02.2	2	+ 2	- 3	6009	8.9	75.3	00.6	2	- 5	0	6069	9.3	84.1	01.3	2	- 4	+ 7
5950	9.0	75.8	01.9	2	- 2	0	6010†	8.5	81.5	01.3	2	+ 6	+ 2	6070†	6.6	76.3	04.5	4	- 4	+ 3
5951	8.6	74.7	97.2	3	0	- 5	6011	8.6	76.3	00.2	2	+ 4	0	6071†	5.1	77.3	01.5	4	+ 2	- 6
5952	9.1	75.7	01.0	2	- 2	+ 2	6012	9.1	76.7	01.0	3	- 1	+ 2	6072†	6.1	78.3	01.5	4	+ 11	- 6
5953	7.8	76.0	02.2	3	+ 5	- 1	6013	9.4	77.0	01.0	3	- 3	- 2	6073†	6.2	80.3	01.5	4	+ 5	- 6
5954	9.0	74.6	99.3	6	+ 3	+ 1	6014	8.8	78.9	01.0	3	+ 5	- 1	6074	8.9	76.9	02.7	5	0	0
5955	8.6	75.5	01.6	2	+ 7	- 4	6015	7.2	78.5	99.3	2	+ 2	+ 2	6075	8.6	79.3	03.1	4	+ 3	- 3
5956	7.6	77.0	01.3	2	+ 1	0	6016	5.9	79.3	00.6	2	- 1	0	6076	8.8	80.1	03.1	4	+ 1	- 2
5957	8.4	75.3	98.6	5	+ 1	+ 3	6017	8.5	80.0	01.3	2	- 7	- 1	6077	8.3	77.3	02.7	5	+ 3	+ 2
5958	7.8	85.3	02.9	2	- 2	- 2	6018	8.9	74.9	00.2	2	+ 1	+ 2	6078	8.3	75.1	02.7	5	- 5	- 2
5959	9.5	83.3	00.6	2	0	+ 5	6019	9.0	75.0	99.3	2	+ 6	+ 2	6079†	7.3	80.4	03.6	6	- 11	+ 10
5960	9.0	75.3	02.2	2	- 4	- 2	6020†	7.6	77.2	01.0	3	+ 1	- 1	6080	9.5	79.8	03.6	6	- 8	- 3
5961	9.5	78.7	01.9	3	- 4	+ 2	6021	9.0	76.2	01.0	3	0	+ 1	6081	7.5	77.7	03.6	6	+ 7	- 2
5962†	7.0	76.1	01.0	4	+ 2	- 10	6022	8.6	75.0	00.2	2	- 8	+ 8	6082	8.6	81.3	03.6	6	- 3	+ 1
5963	7.5	77.3	01.0	4	+ 8	0	6023†	5.7	79.3	00.2	2	0	- 2	6083	8.1	75.1	01.5	4	0	+ 6
5964	7.7	75.2	01.0	4	+ 7	- 2	6024	6.7	75.3	99.3	2	+ 14	- 6	6084	8.9	75.8	01.5	4	- 1	0
5965†	9.1	79.1	01.3	2	- 12	+ 5	6025	9.5	80.3	98.8	2	- 8	0	6085	8.5	77.7	02.3	3	+ 3	- 1
5966	8.8	78.1	00.6	2	+ 2	- 4	6026	9.2	79.6	00.2	2	- 8	0	6086	9.0	80.1	03.3	4	0	+ 1
5967	9.5	80.1	00.7	4	- 6	+ 1	6027	9.0	76.3	00.1	3	+ 3	+ 2	6087	9.4	80.8	03.2	4	- 4	- 1
5968	8.0	74.9	02.1	2	0	+ 1	6028	7.8	78.3	99.4	4	+ 3	- 2	6088	6.8	74.3	03.2	4	+ 2	- 2
5969	9.5	74.8	00.5	3	- 4	+ 1	6029	9.5	76.6	98.8	2	- 3	+ 2	6089†	5.0	80.0	03.3	4	+ 4	+ 4
5970	9.4	82.3	01.0	4	- 8	+ 3	6030	8.5	76.0	98.8	2	0	0	6090	8.7	77.3	03.3	4	0	- 2
5971	8.8	78.1	01.0	4	- 2	+ 2	6031	7.9	76.5	99.3	2	+ 1	+ 1	6091	7.8	78.4	02.3	3	- 1	- 1
5972	9.5	77.6	00.5	3	- 2	+ 2	6032	8.9	79.3	01.9	2	- 8	0	6092	8.1	79.7	02.3	3	- 1	+ 4
5973	9.4	74.6	01.6	2	- 4	- 1	6033	9.0	93.3	00.4	3	- 1	- 1	6093	9.0	84.3	03.3	4	0	- 1
5974	7.3	78.1	01.0	4	+ 5	+ 2	6034	8.5	78.1	01.3	2	+ 4	- 2	6094	9.1	85.8	03.3	4	- 8	- 2
5975	8.4	76.3	01.6	2	+ 4	- 2	6035	7.3	78.1	00.5	3	+ 5	- 1	6095	8.6	78.7	03.3	4	- 1	0
5976	7.8	76.1	01.3	2	- 4	0	6036	9.4	77.7	01.3	2	- 8	+ 6	6096	7.1	77.8	03.2	4	+ 8	0
5977	9.5	79.0	00.4	3	- 1	+ 4	6037	9.3	78.1	01.3	2	- 4	0	6097	8.8	78.9	02.3	3	+ 3	+ 2
5978	9.5	80.0	99.9	5	- 3	+ 7	6038	8.5	75.3	01.9	2	+ 1	- 2	6098	8.6	79.3	02.3	3	- 4	0
5979	9.3	78.3	00.4	4	0	+ 2	6039	9.5	79.3	03.2	3	- 5	+ 1	6099	9.0	85.8	02.3	3	- 5	+ 4
5980	9.5	80.0	01.1	6	- 6	+ 1	6040	9.1	76.8	01.3	2	+ 1	0	6100	7.1	78.3	03.3	4	+ 2	0
5981	7.8	74.8	00.0	3	+ 5	+ 2	6041	8.7	78.5	00.2	2	- 1	- 1	6101	9.1	75.7	00.0	3	+ 3	+ 1
5982	8.6	74.6	00.4	4	0	+ 1	6042	9.0	77.8	01.9	2	+ 1	0	6102†	5.3	78.6	04.3	5	+ 4	+ 2
5983†	8.0	76.4	98.8	2	+ 12	- 8	6043	8.2	75.8	01.3	2	+ 6	- 2	6103	9.1	75.3	00.5	4	- 6	- 1
5984†	9.5	93.3	01.1	6	- 25	- 2	6044	7.3	77.8	00.2	2	+ 4	+ 2	6104	6.3	76.4	03.6	6	+ 5	+ 1
5985	8.7	76.7	00.6	5	- 2	- 2	6045	8.9	78.7	01.9	2	+ 3	- 2	6105	8.3	78.0	03.6	6	- 2	+ 1
5986	8.9	75.3	00.4	3	- 6	- 2	6046	9.3	73.3	04.5	4	+ 1	+ 1	6106	9.1	77.2	02.3	3	+ 1	+ 1
5987	8.9	74.0	99.3	2	+ 2	- 6	6047	9.1	75.5	01.3	2	+ 4	0	6107	9.4	77.1	02.3	3	- 9	+ 5
5988†	8.9	76.3	00.4	4	+ 3	- 11	6048†	9.5	...	...	...	...	...	6108	9.3	75.8	03.3	4	- 1	+ 4
5989	8.2	79.8	00.5	3	+ 4	- 2	6049	9.5	73.3	02.9	3	- 6	- 5	6109	8.7	76.7	02.3	3	+ 5	+ 1
5990	9.1	81.4	98.8	2	- 6	+ 6	6050†	8.3	80.0	01.3	2	+ 12	0	6110	8.5	78.1	03.3	4	0	0
5991	9.3	83.8	00.5	3	- 7	+ 5	6051	8.4	76.8	04.5	4	+ 3	- 4	6111	9.2	85.7	02.3	3	- 3	- 1
5992	9.1	80.6	98.8	2	- 2	+ 2	6052	8.5	75.6	01.9	2	- 6	+ 4	6112	8.9	93.3	99.3	2	- 1	- 1
5993	9.4	74.6	00.5	3	- 3	- 2	6053	5.9	78.3	01.9	2	- 2	+ 2	6113	9.3	88.8	01.7	2	- 3	0
5994†	9.5	79.7	01.3	2	- 20	- 3	6054†	8.7	76.8	04.5	4	+ 4	+ 1	6114	9.3	75.0	00.5	4	- 4	+ 2
5995	9.5	73.8	00.6	2	+ 9	- 6	6055	8.1	75.5	02.9	3	+ 3	0	6115†	5.1	80.5	02.3	3	+ 4	- 1
5996	9.1	83.3	01.0	4	+ 1	+ 4	6056	7.5	79.0	00.6	2	+ 4	+ 3	6116	8.9	77.7	03.3	4	- 7	- 3
5997	8.3	77.3	01.0	4	+ 4	- 2	6057	9.5	76.0	01.0	4	+ 1	+ 4	6117	8.7	84.8	02.3	3	- 1	+ 1
5998	8.9	93.3	98.8	2	- 6	- 1	6058	7.5	77.2	02.9	3	+ 3	+ 5	6118†	4.8	75.3	98.8	2	+ 4	- 8
5999	8.8	81.4	98.8	2	- 5	0	6059	8.8	76.6	04.6	2	- 1	- 4	6119†	5.1	79.0	03.3	3	+ 2	+ 1
6000	8.6	76.2	00.9	5	- 1	+ 1	6060	8.4	79.1	04.5	4	+ 2	- 1	6120†	8.0	73.3	...	...	...	...



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
6121†	8.2	88.4	95.3	4	+ 1	- 11	6181	9.1	75.7	98.8	2	+ 6	+ 3	6241†	6.7	77.8	01.8	2	- 5	- 15
6122	9.0	75.8	03.0	4	- 7	+ 4	6182	8.1	79.4	99.3	2	+ 5	- 3	6242	8.8	77.9	98.8	2	+ 2	+ 2
6123	9.3	78.7	01.8	4	- 5	+ 3	6183	9.0	82.8	99.1	2	- 7	0	6243	9.5	76.3	98.8	2	0	- 2
6124	8.0	91.4	03.0	4	+ 3	0	6184	9.2	84.8	99.8	3	- 5	+ 2	6244	8.6	79.3	01.8	2	- 2	+ 4
6125	7.8	77.0	99.6	3	+ 3	0	6185	9.1	74.7	99.1	2	+ 6	0	6245	9.0	78.2	97.9	3	- 3	0
6126	8.6	88.8	01.7	2	- 2	- 2	6186†	9.0	74.7	99.1	2	+ 11	+ 6	6246	7.1	78.1	98.8	2	+ 2	+ 6
6127	6.5	77.8	03.3	4	+ 2	+ 1	6187	8.5	79.5	99.3	2	0	+ 2	6247	9.1	79.8	98.8	2	- 8	0
6128	8.2	93.3	00.7	5	+ 5	- 1	6188	9.4	76.3	00.3	3	0	+ 2	6248	8.0	77.0	98.8	2	+ 5	- 1
6129	9.1	77.9	99.6	3	+ 3	- 2	6189	9.3	93.3	99.3	2	- 6	+ 3	6249	8.8	78.4	00.5	4	- 2	- 1
6130	8.3	82.3	04.4	5	+ 6	- 3	6190	9.1	80.8	99.3	2	- 4	+ 3	6250	8.0	76.2	98.8	2	- 1	- 2
6131	6.5	83.3	01.9	5	- 1	- 2	6191	9.0	78.3	00.6	2	+ 1	- 2	6251†	8.9	83.0	00.5	4	+ 1	- 1
6132†	7.2	84.1	01.9	5	+ 4	- 4	6192	8.5	77.1	00.3	3	+ 3	- 6	6252†	8.1	75.0	98.8	2	- 19	- 3
6133†	6.3	85.1	01.9	5	+ 6	- 3	6193	9.5	73.4	01.3	2	0	0	6253†	6.0	83.1	00.5	4	- 13	- 6
6134	8.4	82.4	99.3	2	+ 4	0	6194†	8.7	76.7	99.3	2	+ 12	- 12	6254	9.5	88.8	99.3	2	- 2	+ 1
6135	9.0	77.9	98.8	2	+ 6	- 4	6195	9.0	78.3	99.8	3	+ 5	+ 2	6255	9.1	81.4	98.8	2	- 2	+ 1
6136†	5.7	84.3	01.7	4	+ 2	+ 3	6196	8.7	77.3	00.3	3	0	0	6256†	6.3	73.7	97.9	3	- 2	+ 2
6137	9.0	93.3	02.5	6	+ 1	- 1	6197	8.7	76.9	00.3	3	0	+ 1	6257	8.8	76.8	98.3	3	+ 1	+ 1
6138†	9.3	86.3	02.5	6	- 10	+ 3	6198	9.3	74.3	97.9	3	0	0	6258	8.9	78.7	98.3	3	+ 1	- 4
6139	7.7	82.7	01.7	2	+ 1	- 2	6199	9.3	86.1	97.9	3	- 9	+ 2	6259	7.3	78.0	98.6	3	+ 6	+ 2
6140	8.3	81.0	01.6	3	+ 2	0	6200†	9.1	81.9	99.1	2	- 10	- 2	6260	9.0	80.9	01.8	2	- 2	+ 4
6141	8.3	89.0	03.0	4	+ 4	0	6201	7.8	77.9	00.6	2	+ 3	+ 1	6261	9.1	75.6	97.3	2	0	- 1
6142	9.0	87.4	00.0	3	- 2	+ 1	6202	9.3	74.5	99.5	3	+ 1	- 2	6262	9.4	74.8	97.3	2	+ 6	- 2
6143	8.9	78.3	98.8	2	0	0	6203	9.0	75.3	00.2	2	+ 2	+ 6	6263	9.1	79.3	97.3	2	+ 1	- 2
6144	9.1	78.3	98.8	2	- 6	0	6204	9.0	80.0	99.3	2	+ 2	0	6264	9.2	77.5	98.6	3	0	+ 6
6145†	5.3	82.8	03.0	4	+ 6	- 2	6205	9.4	82.8	00.2	2	- 2	0	6265	9.0	76.4	98.8	2	- 2	+ 4
6146	8.4	76.0	98.8	2	+ 4	+ 4	6206	9.3	74.3	98.8	2	0	- 2	6266	8.8	75.7	98.8	2	+ 7	- 4
6147	8.9	79.0	01.6	3	+ 2	+ 1	6207†	9.0	84.8	99.3	2	- 10	- 3	6267†	8.4	80.0	99.3	2	- 10	- 9
6148	8.9	75.3	03.0	4	- 1	- 4	6208	8.6	77.3	99.3	2	- 2	+ 2	6268	8.4	77.0	98.8	2	+ 4	+ 2
6149	8.4	81.8	98.8	2	+ 2	- 3	6209	7.5	78.1	98.8	2	+ 8	- 4	6269†	9.4	92.3	98.8	2	- 32	+ 6
6150	8.1	75.6	01.6	3	+ 4	0	6210	9.5	78.7	00.6	2	- 8	+ 4	6270	8.9	75.3	99.3	2	+ 9	+ 4
6151	9.0	80.4	99.0	4	- 1	- 2	6211	8.2	76.6	00.2	2	0	0	6271†	8.7	77.5	99.5	4	- 8	- 2
6152	9.5	85.3	98.3	3	- 6	0	6212	9.2	77.1	01.0	3	- 2	0	6272†	5.0	81.5	98.8	2	0	0
6153†	8.8	83.0	98.8	2	- 4	+ 2	6213	8.2	75.7	01.3	2	+ 2	- 2	6273	9.0	76.3	97.3	2	- 1	- 4
6154	9.2	82.3	97.9	3	- 9	+ 4	6214	8.5	80.8	01.0	3	+ 2	- 3	6274	7.8	80.2	97.3	2	+ 4	+ 2
6155	7.3	81.4	98.3	3	+ 3	+ 2	6215	6.5	77.5	00.2	2	+ 6	- 1	6275†	8.9	82.5	99.5	4	- 12	0
6156	9.0	74.3	00.8	4	- 8	- 1	6216	9.2	80.9	01.0	3	- 4	- 2	6276	8.6	75.0	98.8	2	0	0
6157	8.6	74.3	98.8	2	- 4	- 2	6217	8.9	75.6	00.5	3	- 2	- 1	6277	8.6	81.4	00.5	4	+ 4	0
6158†	8.8	74.3	98.8	2	- 5	- 6	6218	8.9	79.3	00.2	2	- 6	- 2	6278	8.5	79.4	99.3	2	- 3	0
6159	8.5	79.8	98.8	2	+ 2	+ 4	6219	7.5	78.8	00.2	2	+ 6	0	6279	9.0	73.6	98.8	2	0	0
6160	8.8	75.1	00.8	4	- 2	0	6220	8.7	73.6	00.6	2	+ 4	- 6	6280†	7.4	76.8	97.9	3	- 12	- 4
6161†	9.4	78.8	99.3	2	- 13	+ 6	6221	9.0	78.1	01.3	5	0	+ 3	6281	8.4	75.8	00.5	4	+ 6	+ 1
6162	9.5	73.3	98.8	2	+ 2	+ 2	6222	7.8	78.7	98.8	2	+ 2	+ 4	6282	7.7	78.7	99.3	2	+ 4	+ 2
6163	7.5	75.3	02.0	5	+ 5	0	6223	8.6	77.8	01.3	5	- 5	+ 2	6283	8.1	79.9	99.2	2	+ 5	+ 2
6164†	6.3	82.3	01.7	2	+ 4	0	6224	9.3	82.3	99.2	3	- 8	+ 2	6284	7.5	77.7	98.8	2	+ 3	0
6165	8.4	74.7	98.8	2	+ 2	+ 3	6225†	8.0	78.4	99.3	2	+ 12	- 4	6285	8.8	77.0	99.2	2	+ 4	+ 4
6166	9.0	75.3	98.8	2	+ 1	+ 4	6226	9.5	74.3	98.8	7	+ 2	- 5	6286	9.5	76.0	99.6	3	0	+ 1
6167	9.0	74.8	98.8	2	+ 4	- 4	6227	7.8	80.9	99.7	4	+ 4	- 2	6287	8.9	74.7	99.6	3	- 1	+ 2
6168	8.5	79.0	97.3	2	+ 8	- 7	6228	8.3	80.1	99.6	3	- 3	+ 6	6288	8.8	75.7	00.7	5	+ 5	+ 1
6169	9.0	79.7	98.8	2	+ 3	- 6	6229	8.9	80.8	99.7	4	+ 7	- 3	6289	9.3	77.6	98.8	2	- 8	+ 4
6170	7.7	76.3	01.7	2	- 1	- 3	6230†	9.3	93.3	00.3	3	- 11	+ 2	6290	8.9	81.1	98.8	2	- 2	+ 2
6171	9.2	77.3	98.8	2	- 2	+ 2	6231	9.2	78.7	00.3	3	+ 2	+ 2	6291	8.8	75.3	99.2	2	- 6	- 3
6172	7.7	82.4	99.3	2	+ 2	0	6232	9.2	84.3	00.3	3	- 1	+ 2	6292	9.0	77.0	99.3	2	- 2	+ 2
6173	7.8	76.3	00.5	3	+ 4	+ 2	6233	9.0	76.0	01.3	5	+ 5	+ 2	6293	8.2	81.4	98.8	2	+ 2	0
6174	8.5	76.0	97.9	3	+ 1	+ 1	6234	9.0	81.6	00.3	3	+ 1	+ 1	6294	8.9	74.3	98.8	2	+ 6	- 4
6175	7.6	79.0	99.3	2	+ 6	- 6	6235	8.9	75.1	99.7	4	+ 3	0	6295	8.2	75.3	97.3	2	+ 8	- 8
6176	8.8	83.3	99.3	2	- 2	+ 1	6236	8.5	78.7	01.3	3	0	0	6296	8.7	81.2	97.3	2	- 2	- 2
6177	7.8	79.8	99.5	4	+ 4	- 1	6237	8.9	79.9	01.3	3	- 1	+ 2	6297	9.5	73.7	98.8	2	- 4	+ 3
6178†	9.1	82.9	99.5	4	- 14	+ 5	6238	8.8	76.4	99.3	2	+ 6	- 1	6298	9.1	80.8	98.8	2	- 8	+ 3
6179	8.7	75.3	98.2	3	+ 2	- 5	6239	9.3	81.4	99.3	2	- 2	- 2	6299	9.2	80.6	00.2	1	- 4	- 2
6180	9.5	73.3	01.8	5	+ 1	- 1	6240	9.0	75.6	98.3	2	+ 7	- 6	6300	9.0	75.0	98.8	2	+ 2	- 6



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
6301	8.8	76.6	99.6	2	+ 1	+ 2	6361	9.0	84.1	01.4	5	- 1	- 1	6421	8.5	81.7	99.0	3	+ 2	- 2
6302	8.0	76.8	99.3	3	+ 2	0	6362	9.0	88.9	01.4	5	- 1	+ 2	6422	9.0	80.4	98.9	2	0	+ 2
6303	9.0	78.0	99.3	2	+ 2	+ 1	6363	6.9	74.0	98.8	2	- 4	- 3	6423	8.7	88.9	98.9	2	- 1	+ 4
6304	9.0	75.7	00.0	3	+ 3	- 1	6364	6.9	75.3	03.0	5	+ 2	+ 4	6424	8.7	77.2	00.3	3	+ 1	0
6305	9.0	82.7	99.3	2	+ 4	0	6365	8.0	75.4	00.3	2	+ 6	+ 4	6425	8.8	77.9	00.1	3	+ 2	- 1
6306	8.8	74.7	99.3	4	+ 6	+ 1	6366	9.5	76.9	98.8	2	- 3	+ 6	6426	8.1	81.1	00.3	3	+ 1	+ 2
6307	9.5	73.4	00.3	4	- 7	- 4	6367	9.0	88.4	99.4	2	0	+ 2	6427	8.8	79.2	00.3	3	+ 2	- 4
6308	9.4	79.4	00.3	4	- 1	- 2	6368	8.1	85.4	00.7	3	+ 9	- 3	6428	8.9	84.0	98.9	2	- 1	- 3
6309	8.7	75.4	99.3	4	- 2	+ 3	6369	8.9	80.4	98.8	2	+ 2	0	6429	9.1	82.7	98.9	2	0	+ 2
6310	9.1	77.6	00.2	1	- 6	+ 2	6370†	9.5	77.4	01.4	6	- 10	+ 5	6430†	8.0	77.8	01.3	4	- 18	+ 4
6311	7.0	75.7	01.3	4	+ 3	0	6371	9.1	78.4	01.4	6	+ 1	+ 1	6431	9.0	82.4	98.9	2	0	- 2
6312	9.2	77.3	98.8	2	+ 4	+ 4	6372†	8.5	76.4	99.4	2	+ 11	- 3	6432	7.5	76.4	99.4	2	+ 6	+ 9
6313	7.5	76.5	00.3	5	- 8	- 6	6373	9.0	77.9	01.7	4	0	+ 1	6433	9.1	77.8	01.3	4	+ 2	+ 1
6314†	8.2	79.0	98.8	2	+ 5	+ 2	6374	9.1	89.1	01.4	6	+ 9	0	6434	8.9	85.4	00.4	2	+ 4	- 1
6315	7.4	73.8	03.0	3	+ 8	0	6375	8.5	83.0	99.4	2	+ 5	0	6435	7.9	79.0	98.8	2	+ 4	+ 2
6316	8.1	79.4	03.0	3	+ 1	+ 2	6376	9.3	83.0	01.3	4	- 1	+ 1	6436†	9.1	81.1	98.8	2	- 48	- 1
6317	9.1	80.0	00.2	1	+ 2	+ 1	6377	8.5	80.1	00.3	3	+ 2	- 4	6437	8.7	80.1	00.4	2	+ 2	+ 3
6318	8.9	80.4	03.4	3	+ 2	- 2	6378	9.4	89.3	00.3	3	- 1	+ 3	6438†	7.8	79.4	01.1	6	+ 6	- 4
6319	9.2	79.0	00.3	4	- 4	+ 3	6379	8.3	85.4	00.7	3	0	0	6439	9.3	81.9	98.8	2	+ 1	+ 2
6320	9.1	75.7	02.9	4	+ 3	- 1	6380	9.3	81.4	00.3	3	- 4	- 1	6440	9.3	79.8	00.7	3	+ 1	- 1
6321	7.4	77.6	01.2	3	+ 8	- 2	6381	8.6	87.3	00.0	3	- 5	+ 3	6441	9.1	77.6	99.7	3	- 3	+ 2
6322	8.8	77.4	99.3	5	+ 6	- 3	6382	8.8	84.4	99.3	2	- 8	0	6442	9.4	79.0	00.4	3	- 4	- 1
6323	8.6	75.1	99.3	5	+ 3	0	6383	9.5	93.3	99.3	2	- 8	- 4	6443	7.5	78.4	00.3	3	+ 2	+ 1
6324	9.1	82.8	00.8	6	- 3	+ 3	6384	8.4	84.4	98.8	2	+ 2	0	6444	6.8	79.6	01.3	4	0	- 1
6325	8.0	77.0	03.4	3	+ 1	- 2	6385	8.2	82.0	00.3	2	+ 5	+ 3	6445	8.7	80.4	00.4	2	+ 2	0
6326	8.9	75.7	00.6	6	+ 8	- 6	6386	9.2	84.4	98.8	2	- 2	0	6446	8.7	88.4	00.4	2	- 1	0
6327	9.1	81.4	03.4	3	- 4	- 1	6387†	9.0	88.4	01.3	4	+ 2	- 3	6447	9.1	81.6	00.9	5	- 1	+ 1
6328	9.1	76.4	00.3	5	+ 2	+ 2	6388	8.5	84.4	99.4	2	+ 4	0	6448	9.0	80.4	01.8	2	+ 4	0
6329	9.5	73.3	00.3	5	- 6	+ 2	6389	9.2	85.4	01.3	4	- 2	0	6449	8.1	87.4	00.6	4	0	+ 2
6330	9.3	78.0	00.8	5	+ 3	- 2	6390†	4.1	Fund.	99.6	3	- 58	+ 73	6450	8.9	80.2	99.4	2	0	+ 2
6331	8.3	76.1	01.7	2	+ 3	+ 2	6391	6.5	84.4	01.8	2	+ 5	- 4	6451	8.9	81.9	01.3	4	- 2	0
6332†	9.1	83.4	03.1	4	- 15	+ 7	6392	8.8	85.0	01.1	6	+ 3	+ 1	6452	7.7	83.7	00.3	3	- 5	+ 2
6333	8.7	76.7	02.6	4	- 2	0	6393	9.3	88.9	00.6	3	- 6	0	6453	9.0	81.9	00.0	3	- 1	- 2
6334	9.1	73.8	02.6	4	- 1	+ 6	6394	9.2	88.9	00.5	5	- 5	+ 3	6454	8.6	81.4	00.3	3	- 1	+ 2
6335	8.5	75.9	02.5	6	+ 4	- 5	6395	8.0	82.0	00.4	2	0	0	6455	8.9	82.4	98.8	2	- 4	+ 4
6336	9.0	74.7	00.6	6	+ 5	+ 1	6396	8.8	84.4	00.4	2	+ 6	- 1	6456	9.2	79.7	99.4	2	- 6	+ 2
6337	8.8	74.1	03.0	3	- 1	+ 1	6397	9.3	87.9	99.4	2	- 2	0	6457	8.8	80.4	00.0	3	+ 3	+ 1
6338	9.1	86.4	00.3	6	- 6	0	6398	8.9	84.1	00.8	7	0	- 1	6458	8.8	84.0	99.4	2	+ 2	- 2
6339	9.1	79.4	98.7	5	+ 1	+ 1	6399†	9.4	86.9	99.4	2	- 14	+ 7	6459	9.0	79.7	00.3	3	0	- 5
6340	9.0	77.7	03.8	3	+ 4	0	6400	9.3	84.4	00.4	2	+ 4	+ 1	6460†	8.6	80.4	99.4	2	- 25	+ 14
6341	9.1	75.7	03.0	3	+ 6	- 2	6401	9.0	81.7	00.5	5	+ 4	- 3	6461	7.2	79.6	00.9	5	+ 2	+ 2
6342	9.0	78.1	00.8	7	+ 4	- 1	6402	9.1	84.0	99.0	3	- 6	+ 2	6462	9.5	94.1	03.8	2	+ 4	- 2
6343	7.6	75.7	00.3	2	+ 4	- 2	6403	9.1	86.4	98.9	2	+ 1	+ 3	6463	9.5	86.0	00.5	8	- 1	+ 2
6344	9.3	78.9	02.1	4	- 9	+ 6	6404	9.2	85.4	00.3	3	- 5	+ 1	6464	9.0	79.6	02.0	6	+ 1	- 1
6345	9.0	80.9	00.3	3	- 4	- 3	6405	7.4	79.7	00.3	3	+ 2	- 3	6465†	9.5	87.9	01.6	3	- 13	- 4
6346	8.9	78.0	03.4	3	+ 7	- 1	6406	9.2	81.4	00.3	3	- 8	+ 7	6466	9.3	82.7	01.4	4	- 6	0
6347	8.9	78.4	03.0	3	+ 5	- 9	6407	8.5	81.4	00.7	3	+ 6	- 4	6467	9.1	81.9	02.0	6	- 3	- 1
6348	9.0	84.4	01.2	4	+ 2	+ 2	6408	9.4	73.9	00.4	2	+ 4	- 6	6468†	9.5	79.4	01.8	4	- 19	- 4
6349	6.8	77.0	03.4	3	+ 5	- 3	6409	9.5	87.3	00.4	2	- 8	+ 4	6469	8.3	78.4	98.0	3	+ 7	- 2
6350	8.7	76.3	03.0	3	- 5	+ 1	6410	9.3	77.7	01.3	4	0	- 2	6470	8.3	79.6	00.6	8	+ 3	0
6351	8.9	76.2	00.3	2	- 7	0	6411	7.5	78.9	99.4	2	+ 3	0	6471	8.7	79.7	99.3	3	+ 1	- 1
6352	8.8	83.9	01.2	4	+ 2	0	6412	9.1	77.6	98.4	3	+ 1	+ 3	6472	9.0	81.6	01.3	4	0	0
6353	8.4	77.0	03.0	3	+ 1	+ 3	6413	9.1	77.0	01.0	4	+ 4	- 3	6473	9.3	78.7	98.9	2	- 8	- 4
6354†	9.0	84.4	03.4	3	- 5	+ 2	6414	8.0	80.4	01.0	4	+ 2	- 1	6474†	9.0	78.0	01.3	4	- 12	+ 1
6355	8.8	89.4	01.2	4	0	- 4	6415	9.2	77.8	01.8	4	+ 2	0	6475	9.0	75.7	98.8	2	- 2	+ 6
6356†	5.0	77.9	01.3	4	+ 3	- 3	6416†	8.3	73.7	98.0	3	+ 9	- 23	6476	8.4	79.4	99.3	3	+ 1	0
6357	8.2	76.4	01.6	4	+ 1	0	6417	8.2	82.4	99.4	2	+ 3	0	6477	8.0	87.0	99.4	2	+ 2	0
6358	9.5	80.4	01.6	4	- 9	+ 4	6418	9.1	81.4	00.0	3	- 3	+ 4	6478	8.5	81.4	01.8	2	+ 3	+ 2
6359	7.5	76.0	00.4	4	- 2	+ 2	6419	9.5	93.3	03.9	3	- 1	+ 3	6479	8.7	83.7	01.3	4	+ 7	- 1
6360†	9.3	86.3	01.2	4	- 18	- 6	6420	9.3	79.6	98.9	2	- 7	+ 2	6480	9.2	82.9	99.3	3	+ 3	+ 3



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
6481	8.4	82.9	03.9	3	+ 7	+ 1	6541	9.5	84.0	99.4	2	- 8	- 1	6601	8.8	84.7	02.0	6	- 1	+ 3
6482	7.8	81.1	98.9	2	+ 6	+ 2	6542	8.9	79.9	01.9	5	+ 3	- 1	6602	8.8	81.1	01.8	4	- 1	- 2
6483	8.7	78.9	00.0	3	+ 3	- 2	6543	9.2	79.4	01.9	5	- 2	+ 2	6603	8.8	84.7	01.5	6	+ 3	+ 4
6484†	9.4	80.6	01.8	2	- 12	- 2	6544	9.4	79.7	98.8	2	0	- 2	6604	9.1	84.4	03.3	3	+ 2	0
6485	9.5	82.9	01.1	5	- 2	- 2	6545†	9.4	78.2	98.8	2	- 10	+ 1	6605	6.8	81.1	98.8	2	+ 6	- 3
6486	8.4	84.9	98.9	2	+ 2	+ 4	6546	8.2	80.6	00.4	2	+ 4	+ 3	6606	9.4	79.4	98.8	2	- 3	- 2
6487	8.2	75.7	98.9	2	+ 6	- 1	6547	9.2	80.4	00.4	2	- 4	- 1	6607†	7.0	84.4	00.3	2	- 20	- 4
6488	8.1	79.1	00.0	3	- 4	- 3	6548	9.0	84.4	00.7	3	+ 3	+ 2	6608†	9.5	86.4	01.8	4	- 16	- 2
6489	8.2	82.4	98.8	2	+ 4	- 2	6549	8.0	76.4	00.4	2	- 2	- 1	6609	9.1	79.6	00.6	4	+ 4	- 2
6490	9.0	85.9	98.9	2	- 6	0	6550	9.0	84.4	99.4	2	- 3	- 6	6610	8.6	77.4	99.0	3	- 2	0
6491†	9.2	83.7	99.4	2	- 12	0	6551	9.5	80.4	99.4	2	- 8	+ 4	6611	9.0	78.2	99.4	2	+ 2	- 2
6492	9.4	80.9	99.4	2	0	0	6552†	7.7	81.4	01.8	2	+ 2	+ 3	6612	9.0	83.1	99.4	2	+ 1	+ 2
6493	9.4	90.9	99.4	2	- 6	+ 2	6553	7.0	78.7	01.8	2	+ 6	0	6613	8.8	78.9	99.4	2	+ 4	0
6494	9.4	83.7	98.9	2	- 9	+ 4	6554	9.1	79.1	00.4	3	+ 8	0	6614	8.5	75.4	00.2	3	+ 1	0
6495	9.5	78.9	02.8	4	- 5	- 4	6555	9.0	79.1	99.9	4	+ 3	+ 4	6615	8.9	80.6	99.0	3	- 6	- 1
6496	8.5	77.6	98.8	2	+ 4	+ 5	6556	7.2	81.1	00.4	3	+ 8	- 5	6616	9.4	89.4	01.3	4	+ 4	0
6497	9.2	78.0	00.4	3	+ 4	0	6557	9.0	78.6	00.6	3	+ 2	- 5	6617	9.3	82.8	01.3	4	- 9	+ 3
6498	9.5	89.4	01.2	4	- 7	+ 4	6558	9.0	78.9	98.3	2	- 4	0	6618	8.2	80.6	00.3	2	+ 2	+ 2
6499	8.4	78.0	00.4	3	+ 9	+ 1	6559	8.0	79.1	01.6	4	+ 5	0	6619	7.5	79.0	01.3	4	+ 4	- 5
6500†	8.7	79.1	99.7	3	- 3	- 10	6560	9.0	73.9	01.3	5	- 9	+ 3	6620	9.5	76.7	00.2	3	- 4	+ 5
6501	8.2	79.4	01.8	2	+ 4	- 2	6561	9.3	84.0	99.4	2	- 6	0	6621	9.1	84.4	00.7	3	- 4	+ 2
6502†	7.8	81.5	01.8	2	+ 10	+ 2	6562	8.2	79.4	99.4	2	+ 6	0	6622	9.4	80.4	00.3	2	+ 1	- 2
6503	9.4	79.4	98.8	2	- 2	+ 4	6563	9.1	83.4	01.6	4	0	+ 1	6623	8.0	77.4	01.3	4	+ 4	- 1
6504†	6.8	79.1	01.3	3	+ 10	+ 3	6564	6.5	80.4	98.3	2	+ 1	0	6624†	7.5	83.1	02.7	5	0	+ 5
6505†	9.3	82.9	98.8	2	- 10	+ 2	6565	9.1	80.5	98.3	2	+ 1	- 2	6625†	8.5	80.1	00.5	5	+ 10	- 4
6506	9.2	83.0	99.4	2	+ 2	- 2	6566	9.4	77.6	01.1	5	- 7	+ 2	6626	9.0	88.9	00.5	5	- 4	+ 2
6507	8.8	80.4	99.4	2	- 1	- 2	6567	9.0	81.2	01.6	4	- 4	0	6627	9.2	84.4	01.2	6	+ 1	+ 2
6508	9.4	81.6	02.8	4	- 2	+ 1	6568	9.5	73.4	01.6	4	0	+ 2	6628	9.5	84.9	02.7	5	- 8	- 1
6509†	9.1	85.9	98.9	2	- 10	+ 1	6569	9.2	84.4	99.4	2	- 2	+ 2	6629	8.5	84.4	98.8	2	- 3	+ 2
6510	7.5	79.4	98.9	2	+ 3	+ 6	6570	9.1	79.7	99.7	3	- 2	0	6630	9.4	93.3	00.3	2	+ 4	+ 9
6511†	8.5	77.4	99.4	2	+ 10	0	6571	9.4	82.9	99.4	2	- 5	- 6	6631	9.5	93.3	02.1	5	+ 2	+ 8
6512	9.2	78.8	00.9	4	0	+ 3	6572	9.1	85.1	02.3	3	+ 2	0	6632	9.1	84.4	00.3	2	- 4	- 1
6513	9.0	83.0	98.8	2	0	- 1	6573	9.0	77.9	01.8	2	0	- 2	6633†	8.5	81.9	00.3	2	+ 12	- 21
6514†	6.0	80.6	01.8	4	+ 15	- 14	6574	8.8	84.0	98.3	2	0	0	6634	8.5	87.4	00.3	2	- 7	+ 5
6515	8.9	81.7	00.9	4	0	+ 3	6575	8.3	80.4	98.3	2	+ 4	+ 2	6635	8.8	81.4	01.2	6	+ 8	- 2
6516	9.1	86.0	01.8	4	+ 2	+ 3	6576	8.9	83.4	03.0	3	+ 1	- 3	6636†	6.0	78.6	99.4	2	- 2	+ 4
6517	8.5	79.1	00.9	4	+ 9	- 3	6577	8.5	80.1	00.3	5	+ 4	0	6637	9.4	82.9	00.5	5	- 4	- 6
6518†	9.2	83.0	00.9	4	- 12	+ 5	6578	8.5	78.4	01.8	2	+ 1	- 2	6638	7.7	84.4	01.8	2	+ 2	0
6519	8.3	81.4	00.4	2	+ 2	- 1	6579	9.0	80.7	00.6	3	+ 3	- 2	6639	8.3	82.9	00.3	2	- 1	+ 4
6520†	8.8	78.6	99.0	3	- 7	+ 1	6580	8.9	84.4	00.3	5	- 3	+ 3	6640	9.1	76.4	99.4	2	+ 2	+ 1
6521	9.5	83.4	98.4	3	- 5	0	6581	9.1	84.7	00.7	5	- 6	+ 2	6641	9.0	84.9	01.8	2	0	0
6522†	9.5	78.3	93.3	1	- 10	0	6582†	8.5	81.0	00.7	5	- 1	+ 2	6642	8.0	78.9	99.0	3	+ 3	- 3
6523	9.3	77.9	99.1	4	- 2	- 1	6583	7.0	81.9	98.3	2	+ 4	+ 2	6643†	9.4	83.4	98.0	3	- 18	- 1
6524	7.9	79.7	02.3	3	+ 4	0	6584	8.1	78.4	99.4	2	- 2	+ 2	6644	9.0	78.1	99.4	2	+ 6	- 5
6525	8.0	84.4	02.3	3	+ 5	- 1	6585	9.0	79.4	00.7	5	0	- 6	6645	8.8	82.4	00.4	3	+ 1	- 1
6526	9.1	85.4	02.8	4	0	0	6586	9.3	86.0	99.4	2	0	- 1	6646	7.8	84.4	00.3	2	+ 1	- 1
6527	8.3	78.9	99.4	2	0	- 2	6587	9.1	84.1	98.3	2	- 2	- 2	6647	9.2	84.9	01.3	4	+ 1	+ 4
6528	8.0	80.7	99.0	3	+ 3	+ 1	6588	9.0	80.7	98.3	2	- 2	- 2	6648	9.1	84.1	00.4	3	- 4	- 3
6529	8.5	79.7	02.8	4	- 1	+ 5	6589†	9.5	93.8	01.8	2	+ 10	+ 2	6649	8.8	84.4	01.3	4	+ 4	- 2
6530	8.5	76.1	99.4	2	+ 6	- 2	6590	8.0	83.4	03.0	3	+ 2	0	6650	9.1	80.4	01.3	4	0	- 2
6531	9.1	80.7	00.4	2	+ 1	+ 2	6591	9.5	89.4	01.8	2	- 5	- 2	6651†	8.5	79.6	01.5	6	- 14	+ 2
6532†	9.3	77.6	98.8	2	- 10	+ 1	6592	9.2	84.9	00.6	4	- 6	+ 1	6652	7.0	80.0	99.4	2	+ 3	+ 1
6533	9.3	83.4	01.3	4	- 8	- 1	6593	9.0	84.4	01.8	2	- 4	0	6653	9.1	79.4	99.4	2	+ 1	- 2
6534	8.2	78.9	01.3	4	+ 3	- 2	6594	7.9	84.9	03.0	3	+ 6	- 2	6654	6.9	78.8	99.4	4	- 1	0
6535	8.9	77.1	99.4	2	+ 5	+ 4	6595	9.5	83.4	98.3	2	- 1	+ 4	6655	9.2	88.3	01.5	6	- 4	- 1
6536	9.3	77.1	98.8	2	+ 2	0	6596†	9.5	94.7	01.2	4	+ 12	- 2	6656	9.2	78.4	99.0	3	- 3	- 1
6537	7.9	82.1	98.8	2	+ 8	+ 2	6597	8.1	79.1	98.3	2	+ 3	0	6657†	5.0	75.7	98.3	4	+ 12	- 4
6538†	6.0	80.6	01.9	5	+ 6	0	6598	9.5	86.4	03.0	3	- 6	+ 2	6658	8.8	83.4	99.8	3	0	- 1
6539	8.6	79.1	00.0	3	+ 6	0	6599†	6.0	84.4	02.6	4	+ 8	- 4	6659†	9.1	84.1	01.5	6	0	- 8
6540	9.0	77.7	01.3	4	0	- 1	6600	8.3	84.4	01.8	2	- 5	- 2	6660	9.1	83.4	01.5	6	+ 5	0



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\delta$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\delta$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\delta$ .	$\Delta\eta$ .
6661	8.3	76.9	99.4	4	0	0	6721	9.0	86.4	99.3	2	+ 5	0	6781	8.7	87.4	02.0	3	0	+ 1
6662	9.2	77.4	00.4	3	- 8	0	6722	9.3	87.9	99.3	2	0	+ 2	6782	9.4	93.8	01.3	4	- 4	+ 2
6663	8.0	75.4	01.3	4	0	- 2	6723†	8.6	74.4	00.2	3	+ 6	- 5	6783	9.1	81.4	00.0	3	- 5	- 3
6664	9.0	80.2	99.1	2	- 8	+ 2	6724	8.8	74.7	99.1	4	+ 3	+ 4	6784	9.4	82.9	00.3	2	+ 2	- 2
6665	8.9	80.9	01.3	4	- 1	+ 1	6725	8.0	92.9	98.9	2	0	- 1	6785	9.0	77.7	00.6	4	+ 6	- 2
6666	9.3	80.4	99.1	2	- 5	- 2	6726	6.2	81.6	01.2	2	+ 4	0	6786†	9.4	78.7	02.0	3	- 10	+ 3
6667	9.2	75.7	99.1	2	- 1	+ 1	6727	9.5	86.9	00.3	4	- 4	+ 2	6787	9.2	84.4	99.4	2	+ 2	- 2
6668	8.9	79.9	99.1	2	+ 2	+ 4	6728	9.0	80.9	99.3	2	+ 6	0	6788	7.8	76.8	02.0	3	+ 5	- 4
6669	6.9	77.6	01.3	4	+ 3	- 3	6729†	8.9	83.4	99.3	2	- 11	- 5	6789	9.1	83.4	99.4	2	- 2	+ 2
6670	8.9	79.0	99.1	2	+ 6	- 3	6730	9.5	93.4	98.3	3	- 2	+ 5	6790	9.1	82.4	98.8	2	- 1	- 2
6671†	7.4	78.1	99.3	3	+ 4	0	6731	9.3	82.4	99.2	2	+ 5	0	6791	8.7	76.4	00.3	2	+ 4	+ 2
6672	9.3	77.4	99.4	2	- 3	+ 1	6732	8.5	88.7	00.3	4	+ 4	+ 5	6792	7.3	81.4	98.0	3	- 4	+ 3
6673	9.1	81.4	99.1	2	+ 1	- 3	6733	8.1	82.1	98.9	2	+ 2	- 2	6793	9.4	83.4	01.3	4	- 3	- 4
6674	9.0	77.4	99.1	2	- 2	- 1	6734	8.1	84.4	98.3	2	+ 6	0	6794†	9.3	79.2	01.7	3	- 11	+ 2
6675	7.5	84.1	01.8	2	+ 5	- 2	6735†	8.2	81.4	99.3	3	- 4	- 4	6795	9.1	78.9	00.3	1	- 2	+ 1
6676	8.9	82.1	01.3	4	+ 3	+ 3	6736†	5.0	Fund.	00.9	3	+ 8	- 1	6796	8.4	79.2	01.9	5	+ 2	+ 1
6677	9.4	78.4	99.3	3	- 7	+ 1	6737	9.2	86.9	98.3	3	- 5	+ 1	6797	9.0	77.9	00.0	3	+ 2	+ 1
6678	9.2	81.6	01.3	4	+ 4	+ 1	6738	8.0	84.1	98.9	2	+ 5	- 1	6798	8.8	76.4	02.1	5	+ 3	0
6679	9.1	83.4	01.8	2	- 4	- 4	6739	9.0	82.1	01.2	2	- 2	0	6799	8.0	76.4	02.6	4	+ 4	- 1
6680	9.3	88.4	00.7	5	+ 2	+ 1	6740	8.9	81.1	00.9	3	- 2	- 5	6800	7.5	79.6	01.8	6	+ 6	- 1
6681	8.9	76.7	99.1	2	+ 1	0	6741	9.1	83.6	98.9	2	+ 1	- 2	6801	9.0	76.4	02.6	4	+ 1	0
6682†	9.5	73.4	00.7	5	- 6	+ 1	6742	9.0	84.1	00.6	3	- 3	0	6802	7.0	77.4	01.9	5	+ 6	+ 1
6683	9.0	79.7	99.1	2	+ 2	0	6743	8.2	80.7	98.9	2	- 2	0	6803	9.2	79.7	02.6	4	- 6	+ 2
6684	8.5	76.4	99.1	2	+ 3	+ 6	6744†	9.5	87.4	97.7	3	- 14	0	6804	9.2	73.4	01.7	3	+ 2	- 1
6685†	9.4	84.4	02.9	2	- 12	+ 10	6745	9.3	80.4	98.9	2	- 6	0	6805	9.0	84.4	01.7	3	+ 3	+ 1
6686†	9.0	82.1	99.1	2	+ 2	+ 2	6746†	7.2	80.7	99.2	2	0	0	6806†	9.4	74.9	02.0	3	- 16	0
6687†	9.5	74.9	00.7	5	- 11	+ 2	6747	9.0	78.4	00.8	4	- 3	0	6807	9.3	79.9	98.8	2	- 6	+ 4
6688†	8.9	79.4	00.7	5	+ 3	+ 6	6748	9.3	78.9	00.6	4	+ 3	+ 1	6808	6.5	79.4	99.4	2	+ 2	- 3
6689†	6.0	Fund.	99.1	2	- 2	0	6749	8.9	74.9	00.3	4	- 9	+ 1	6809	8.9	79.4	01.6	4	0	+ 3
6690	7.5	80.1	98.2	3	+ 6	- 1	6750	9.0	81.7	00.8	4	- 4	- 2	6810	8.0	81.4	02.9	5	- 4	- 1
6691	9.4	76.4	99.1	2	- 6	0	6751	9.5	91.4	00.6	4	+ 1	- 3	6811	9.0	78.7	03.3	3	+ 1	+ 2
6692	9.2	76.2	99.1	2	+ 1	0	6752	8.8	84.1	00.8	4	+ 6	+ 1	6812	8.9	77.9	03.3	3	- 7	+ 5
6693	7.3	76.4	00.6	3	+ 3	- 8	6753	8.5	83.4	98.9	2	0	+ 1	6813	9.3	76.4	02.0	3	- 2	0
6694	7.4	79.1	00.6	3	+ 6	- 1	6754	7.9	77.7	00.3	2	- 1	+ 3	6814†	6.1	80.2	03.3	3	- 3	+ 5
6695	9.1	75.4	97.3	2	+ 4	- 1	6755	8.5	83.8	01.7	3	- 1	- 2	6815†	9.4	79.4	00.8	4	- 11	+ 5
6696	9.0	78.4	99.1	2	+ 2	+ 2	6756†	7.0	84.4	99.3	2	+ 7	+ 2	6816†	9.0	92.9	04.8	2	- 10	0
6697	9.1	80.1	01.8	2	0	0	6757	8.5	83.2	00.6	4	0	- 3	6817	8.8	83.4	02.0	4	0	0
6698	9.0	80.1	99.1	2	- 5	0	6758	9.0	84.0	98.9	2	+ 2	0	6818	8.8	80.7	02.0	4	- 2	- 5
6699	7.5	79.0	98.2	3	- 4	- 1	6759	8.1	80.4	02.0	3	+ 1	0	6819	8.0	74.4	01.9	4	+ 4	- 1
6700	9.2	78.4	99.4	2	- 4	+ 2	6760	8.0	83.1	99.3	2	+ 4	- 2	6820	6.5	81.6	01.9	4	+ 9	0
6701	9.3	76.4	98.2	4	- 9	+ 2	6761	8.9	81.4	00.3	2	+ 2	+ 1	6821	8.0	79.2	00.8	4	+ 3	- 5
6702	8.0	84.4	99.4	2	+ 6	- 6	6762	8.5	77.7	01.6	4	+ 8	- 2	6822	9.3	77.1	01.2	5	+ 2	+ 1
6703	6.9	77.1	97.0	3	+ 5	- 3	6763	9.0	86.1	00.3	2	0	0	6823	9.0	81.2	00.4	3	- 5	- 1
6704	9.1	76.4	01.5	4	- 7	+ 1	6764†	9.5	84.4	00.3	2	- 16	+ 3	6824	9.1	84.4	02.0	4	0	+ 1
6705	8.8	74.4	97.0	3	0	- 2	6765	8.9	74.4	03.3	3	+ 7	0	6825	9.4	81.9	99.7	3	- 1	+ 3
6706	9.0	85.0	99.4	2	0	0	6766	9.0	84.1	00.3	3	+ 1	- 3	6826	9.0	80.2	02.0	4	+ 6	- 4
6707	9.0	80.9	99.4	2	+ 3	- 1	6767	9.4	84.1	00.3	2	- 8	- 2	6827	8.6	80.6	00.8	4	+ 2	0
6708	8.9	84.4	97.3	2	- 2	- 2	6768	7.0	84.1	98.9	2	+ 9	- 2	6828	9.0	77.1	00.0	3	+ 1	+ 3
6709	9.2	75.4	99.9	3	- 2	+ 2	6769	8.8	80.9	99.4	2	+ 1	- 2	6829	9.0	77.7	98.8	2	- 2	0
6710	9.4	76.4	00.2	3	+ 2	+ 1	6770	9.1	84.9	00.0	3	- 4	- 1	6830	8.7	78.4	00.8	4	- 2	+ 2
6711	9.4	87.4	99.9	3	+ 8	+ 1	6771	8.6	80.1	01.6	4	+ 4	- 1	6831	9.0	73.7	02.0	3	+ 2	+ 2
6712	8.0	76.6	99.9	3	+ 2	+ 2	6772	8.6	85.7	02.0	3	+ 5	+ 6	6832	7.5	77.6	01.0	3	- 4	- 2
6713	9.1	81.4	00.2	3	0	0	6773	9.3	85.4	99.4	2	- 8	+ 2	6833	9.1	82.7	99.3	2	0	+ 2
6714	9.0	74.4	97.3	2	0	- 2	6774	8.6	83.4	01.3	4	+ 1	+ 3	6834	9.4	87.9	01.0	3	- 4	- 3
6715†	9.5	83.4	00.2	3	- 13	+ 2	6775	8.6	84.1	99.4	2	+ 5	- 2	6835	8.2	80.9	01.0	3	+ 4	- 1
6716	9.3	83.4	99.3	2	- 5	+ 2	6776	9.0	74.9	01.3	4	+ 1	0	6836	8.0	80.4	98.8	2	+ 9	- 1
6717	9.0	77.0	98.9	2	- 5	+ 2	6777	9.1	84.0	99.4	2	+ 2	0	6837	9.0	76.1	99.3	2	- 6	+ 4
6718	7.0	79.1	98.9	2	+ 2	- 2	6778	8.5	74.9	01.3	4	+ 4	0	6838	7.5	83.2	00.0	3	+ 7	- 8
6719	9.5	73.4	99.3	2	- 2	+ 1	6779	9.0	76.4	00.3	1	- 1	- 1	6839	9.5	74.4	02.6	3	+ 8	- 3
6720	8.9	83.8	99.3	2	- 2	+ 1	6780	9.0	83.9	00.3	3	- 1	- 1	6840†	9.1	80.1	98.8	2	- 10	0



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\zeta$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\zeta$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\zeta$ .	$\Delta\eta$ .
6841	8.4	79.6	02.0	3	+ 5	- 3	6901	8.3	82.4	01.2	4	0	0	6961	8.9	82.4	01.3	6	- 2	+ 2
6842	8.8	82.6	02.0	3	- 2	- 1	6902	9.2	82.9	01.6	4	- 1	+ 2	6962	8.2	74.4	99.8	2	+ 6	- 1
6843	9.2	80.4	02.0	3	- 4	+ 2	6903	9.3	82.4	02.1	6	- 6	+ 2	6963†	8.0	80.4	01.4	3	- 11	- 5
6844	8.9	79.8	00.2	7	- 7	0	6904	8.4	75.4	00.1	4	- 2	0	6964	8.7	76.7	00.9	3	+ 1	0
6845	9.0	74.7	02.1	5	+ 7	+ 1	6905	7.0	79.2	00.1	4	0	+ 2	6965	9.4	78.8	99.8	2	+ 2	+ 1
6846	8.0	77.1	00.1	5	0	- 1	6906	9.0	76.1	01.4	5	+ 3	- 4	6966†	9.5	93.4	01.6	4	+ 13	+ 2
6847	7.2	76.1	00.4	4	+ 6	+ 1	6907	7.4	74.7	01.2	4	+ 6	- 2	6967	9.0	78.3	01.4	3	+ 3	- 2
6848†	8.0	77.4	02.1	5	- 9	+ 12	6908	9.0	76.1	00.1	4	0	+ 1	6968†	8.4	82.7	01.4	3	+ 11	0
6849	8.9	76.1	99.8	4	+ 5	0	6909	8.4	80.9	01.4	5	0	+ 4	6969	9.0	75.4	00.4	2	- 7	- 1
6850	7.5	78.4	01.4	3	+ 6	0	6910	9.6	76.1	98.0	3	- 7	0	6970	9.4	78.9	98.3	3	- 2	+ 6
6851	7.0	78.1	01.4	3	+ 6	+ 2	6911	8.5	82.1	01.4	5	0	- 3	6971	8.3	81.4	99.6	4	+ 1	+ 2
6852	7.0	80.1	99.8	4	+ 6	- 2	6912†	var.	81.2	98.0	3	+ 4	+ 1	6972	8.5	90.4	01.2	2	- 3	0
6853	9.2	83.4	02.1	4	+ 3	+ 1	6913	9.0	82.2	02.6	5	- 3	0	6973	9.4	83.4	00.9	4	- 3	0
6854	9.0	79.1	98.8	2	+ 2	+ 1	6914†	8.4	83.7	01.4	3	- 5	+ 4	6974	8.7	81.4	00.9	4	+ 2	- 1
6855	9.3	82.0	01.7	3	- 1	- 2	6915	8.5	76.4	02.6	4	0	0	6975†	9.4	87.9	98.3	3	- 10	+ 3
6856	9.0	79.8	98.7	3	+ 1	+ 1	6916	9.3	83.2	01.4	3	- 6	+ 2	6976†	6.1	80.1	01.2	2	- 1	+ 2
6857	9.5	75.4	01.6	4	+ 1	- 3	6917	9.0	83.4	01.7	3	+ 1	+ 2	6977	9.3	86.9	99.6	4	- 7	+ 6
6858	9.0	76.7	00.2	3	+ 6	- 6	6918†	9.5	84.0	02.6	4	- 12	0	6978†	9.5	83.4	01.4	3	- 12	0
6859	9.0	81.4	97.3	2	+ 1	+ 4	6919	9.5	91.4	01.7	3	+ 3	+ 2	6979	8.5	84.4	99.6	4	- 4	- 2
6860	9.1	82.1	01.6	4	- 1	+ 1	6920	8.3	78.2	02.6	4	+ 4	- 1	6980	9.1	81.1	01.2	2	- 7	- 6
6861†	8.3	81.9	00.2	3	+ 10	+ 2	6921	7.9	79.9	01.4	3	+ 1	- 1	6981†	8.8	78.7	98.3	3	- 2	- 21
6862	9.0	80.6	01.4	3	- 3	+ 3	6922	8.6	76.1	01.4	3	+ 2	0	6982†	8.9	77.2	98.3	3	- 2	+ 4
6863†	9.1	80.4	01.2	2	- 16	0	6923	8.2	74.4	98.8	2	+ 4	- 4	6983	6.8	74.7	99.6	4	+ 3	- 2
6864	9.4	82.4	98.9	2	- 6	+ 1	6924†	9.5	82.9	01.4	2	- 14	+ 6	6984	9.5	76.1	01.4	3	- 3	- 4
6865	9.0	76.4	00.2	3	- 3	- 9	6925	9.3	73.4	01.2	2	- 7	- 6	6985	8.7	77.8	97.4	2	+ 4	- 1
6866†	9.4	87.4	00.2	3	- 19	- 2	6926	9.3	83.4	01.4	3	0	- 2	6986	8.4	75.7	97.4	2	+ 1	0
6867	9.2	81.7	97.3	2	- 3	+ 2	6927	9.3	80.4	01.4	3	- 2	+ 1	6987	7.0	78.7	99.3	3	+ 2	- 1
6868	9.0	84.4	01.2	2	+ 1	0	6928	9.3	78.4	01.1	4	0	- 4	6988	9.3	82.7	00.9	4	- 2	- 3
6869	8.3	80.4	01.4	3	+ 2	+ 3	6929	8.2	81.4	01.4	3	+ 4	+ 1	6989†	6.2	79.4	01.6	4	+ 9	- 2
6870	9.4	81.4	01.7	3	- 6	+ 1	6930	8.3	76.1	01.1	4	+ 6	+ 2	6990	9.4	81.4	01.8	4	- 5	- 1
6871	9.0	92.9	01.6	4	- 3	- 2	6931	8.3	83.2	01.7	3	- 5	0	6991	9.5	73.4	01.8	4	- 2	- 1
6872	9.3	82.9	01.7	3	- 3	- 3	6932	8.6	83.4	98.8	2	+ 2	- 2	6992	9.2	86.4	02.4	5	- 2	+ 3
6873†	6.2	83.8	98.9	2	+ 1	+ 2	6933	8.6	79.4	01.1	4	+ 1	- 3	6993	9.4	79.7	01.8	4	- 3	0
6874	9.4	79.8	01.7	5	+ 3	+ 3	6934	9.1	82.8	01.4	3	+ 4	- 3	6994	9.1	81.2	01.8	4	+ 1	- 1
6875	8.8	80.4	00.0	3	+ 2	- 1	6935	8.6	82.2	01.7	3	0	+ 1	6995	9.4	81.9	01.4	3	- 7	0
6876	9.0	78.4	00.0	3	- 1	+ 1	6936	9.4	74.7	01.2	2	+ 1	0	6996	8.9	76.0	01.4	3	+ 4	0
6877	9.1	80.4	01.3	5	- 9	+ 5	6937†	7.7	77.1	01.9	4	+ 8	- 11	6997	8.7	76.2	99.3	3	0	0
6878	9.3	81.4	01.7	3	- 2	+ 5	6938	9.5	80.9	00.9	3	- 1	+ 5	6998	8.7	86.9	01.4	3	- 7	+ 3
6879	9.5	73.4	98.9	2	+ 6	+ 4	6939	8.6	80.9	01.4	4	+ 2	+ 3	6999	8.9	82.8	01.4	3	+ 2	- 1
6880	9.2	90.9	02.6	4	- 6	- 4	6940	7.5	78.7	00.9	3	+ 3	- 4	7000	9.1	74.7	02.4	5	+ 5	- 2
6881	8.7	80.2	01.7	3	+ 6	- 1	6941	7.9	74.7	98.3	2	- 2	+ 3	7001	9.5	77.4	02.6	5	- 2	- 3
6882	9.0	84.0	01.7	3	- 2	0	6942	9.0	80.8	00.9	3	- 5	- 2	7002	9.3	80.2	02.4	5	- 4	0
6883	9.0	85.4	01.4	3	+ 3	- 2	6943†	9.4	79.4	98.3	2	- 13	+ 2	7003	8.3	81.9	01.4	3	+ 8	- 4
6884	8.8	79.4	01.7	3	+ 2	+ 3	6944	8.9	77.4	00.9	3	+ 1	+ 3	7004	8.0	78.6	02.4	5	+ 4	+ 1
6885	9.2	80.2	02.6	4	- 2	- 3	6945	8.9	84.0	01.2	2	- 4	- 1	7005	7.8	81.4	99.9	4	+ 8	+ 2
6886	8.1	78.2	01.2	2	+ 5	- 1	6946	8.1	81.4	01.7	3	+ 4	+ 1	7006	9.4	84.4	02.6	4	+ 4	- 2
6887	9.1	75.8	01.4	3	- 2	0	6947	8.7	81.9	00.9	3	0	- 2	7007	9.1	82.9	02.6	4	+ 6	- 1
6888	8.1	79.2	01.2	2	+ 8	- 2	6948†	9.0	74.7	98.8	2	- 19	- 1	7008	8.0	83.4	02.6	4	+ 2	+ 3
6889	8.1	83.4	01.4	3	+ 7	- 9	6949	8.5	79.4	99.3	3	+ 4	0	7009	9.5	81.7	01.6	4	- 7	+ 2
6890	8.6	92.9	01.7	3	- 2	- 2	6950†	5.9	80.4	99.3	3	+ 11	- 4	7010	8.6	76.2	97.9	2	- 2	0
6891	9.5	87.4	01.7	3	0	0	6951	9.4	78.7	00.9	3	- 3	- 5	7011	9.4	78.7	02.5	6	- 9	+ 1
6892	9.0	83.4	01.2	2	- 2	0	6952	9.3	82.7	01.7	3	- 3	+ 2	7012	9.5	73.4	02.6	4	0	+ 1
6893	8.9	80.7	01.4	3	+ 3	+ 1	6953†	9.5	86.9	01.7	3	- 21	+ 5	7013†	9.5	83.4	00.1	4	- 8	- 10
6894	8.0	85.0	01.4	3	+ 4	- 5	6954	9.0	80.1	99.0	3	- 1	+ 1	7014	9.0	77.4	03.1	4	+ 1	- 3
6895	9.1	81.0	00.1	4	- 6	0	6955	9.0	83.4	99.0	3	+ 2	0	7015	8.3	79.8	98.4	3	+ 4	- 1
6896	8.8	80.1	98.9	2	- 2	- 1	6956	8.4	75.4	01.0	5	+ 7	0	7016	9.5	73.4	97.9	2	+ 4	- 2
6897	9.1	84.4	02.6	4	- 1	- 2	6957†	2.3	88.2	99.0	3	+ 6	+ 2	7017	9.5	73.4	03.1	4	- 2	+ 2
6898	9.5	83.4	01.4	3	- 1	+ 2	6958	8.2	80.1	01.0	5	- 1	- 1	7018	8.6	79.0	00.1	4	+ 4	+ 2
6899	9.4	80.2	03.9	5	- 2	+ 4	6959	9.0	81.8	02.4	4	0	+ 5	7019	8.7	74.9	01.2	7	+ 2	+ 1
6900†	8.0	83.8	02.1	6	+ 10	- 4	6960	8.0	76.4	02.0	5	0	0	7020	9.2	86.9	00.4	4	+ 3	+ 2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
7021	9.4	77.4	03.1	4	- 2	- 1	7081	8.8	82.4	01.8	2	0	- 1	7141	9.0	73.4	01.8	2	0	- 4
7022	6.7	84.4	00.3	1	+ 7	- 2	7082	9.2	73.4	03.1	3	0	- 5	7142	8.8	81.5	01.8	2	- 2	+ 2
7023	9.2	77.2	01.7	3	- 6	- 3	7083	8.0	82.2	02.4	4	+ 2	0	7143	7.9	78.0	00.9	3	+ 1	- 1
7024	8.2	78.4	98.7	3	- 1	+ 1	7084†	4.9	75.8	02.3	3	+25	-12	7144	9.2	83.9	02.3	4	- 6	+ 1
7025	8.3	78.9	01.7	3	- 4	0	7085	9.1	81.4	96.8	2	- 5	+ 8	7145	9.0	81.4	01.9	3	- 1	+ 5
7026	9.0	83.4	02.6	5	- 3	- 3	7086†	9.2	76.7	02.3	3	-71	+41	7146†	9.5	81.4	02.3	4	+ 9	+ 2
7027	8.8	79.4	02.6	5	- 2	- 2	7087	9.0	84.4	01.1	3	+ 2	+ 2	7147	9.5	75.4	02.3	3	- 6	- 2
7028	9.4	80.4	02.1	4	+ 8	+ 6	7088†	9.0	76.1	02.4	4	+12	+ 7	7148	9.0	74.1	01.4	3	- 2	+ 1
7029	8.5	78.0	98.7	3	+ 2	- 1	7089	7.3	83.0	03.1	3	+ 4	0	7149†	9.5	89.4	02.4	4	- 2	0
7030	8.9	77.7	00.1	4	+ 4	+ 1	7090	7.9	74.8	01.1	3	+ 2	- 1	7150†	6.5	76.1	00.6	2	+10	+ 5
7031	9.0	82.4	00.1	4	- 3	+ 3	7091†	6.3	76.6	97.7	3	+ 4	- 3	7151†	8.5	77.1	01.7	3	+13	- 5
7032	7.5	77.6	00.3	2	+ 3	0	7092	9.3	80.1	01.9	5	- 7	0	7152	8.4	75.4	02.3	3	- 7	- 3
7033	9.3	82.4	00.3	2	- 7	+ 2	7093†	6.3	85.4	01.9	5	+ 5	+ 2	7153	8.0	79.1	02.4	4	+ 5	+ 2
7034	9.5	75.4	02.6	4	- 5	+ 4	7094	9.4	82.4	01.9	3	- 5	- 2	7154	8.3	83.8	02.4	4	+ 5	+ 1
7035	7.5	81.2	00.3	2	0	0	7095	9.4	75.8	02.6	4	- 8	+ 6	7155†	8.0	77.4	01.9	5	-37	- 7
7036	8.0	78.4	01.7	3	+ 5	- 5	7096	9.3	82.9	00.7	3	- 6	- 1	7156	8.6	81.7	01.4	2	- 2	+ 4
7037†	7.0	78.3	03.1	4	+ 8	0	7097	9.0	82.8	01.4	3	- 1	- 6	7157	9.4	88.1	02.4	4	- 7	+ 4
7038	9.1	87.9	01.7	3	- 1	- 1	7098	9.5	77.4	00.4	2	0	+ 3	7158	8.5	78.4	01.8	2	+ 6	- 2
7039	7.0	79.0	00.3	2	+ 4	- 2	7099	9.1	84.0	01.4	2	+ 2	- 5	7159†	9.5	80.4	02.3	3	-10	- 1
7040	8.8	74.4	03.1	4	0	- 1	7100	7.3	81.0	00.3	3	+ 8	+ 1	7160	9.5	86.9	02.3	3	- 6	- 5
7041	9.0	74.7	02.2	7	- 1	0	7101	9.0	78.4	01.4	2	- 1	+ 2	7161	9.1	73.9	01.8	4	+ 5	+ 3
7042	8.3	81.1	02.2	7	0	+ 1	7102	9.2	83.2	01.4	2	+ 4	+ 1	7162†	6.0	78.1	02.3	3	- 1	- 5
7043	9.3	82.9	00.1	4	- 3	+ 4	7103	9.0	84.6	01.4	2	0	+ 2	7163	8.1	78.2	01.4	2	0	+ 2
7044	9.1	76.1	00.1	4	+ 1	- 4	7104	8.5	76.7	98.8	2	+ 2	0	7164	9.3	86.4	01.3	3	- 9	+ 3
7045	8.0	77.9	02.6	5	+ 2	+ 2	7105	8.1	80.2	00.3	3	0	+ 4	7165	8.7	85.2	01.8	2	+ 5	- 1
7046	8.7	79.1	00.1	4	+ 1	- 1	7106	8.0	77.0	00.4	2	+ 5	+ 1	7166	8.4	81.4	02.7	2	+ 3	- 1
7047	9.4	74.7	02.9	3	0	+ 2	7107	9.4	79.7	00.3	3	- 5	+ 1	7167	9.0	77.6	00.6	4	+ 6	- 1
7048	8.9	93.0	01.6	3	+ 6	- 1	7108	9.0	82.1	00.3	3	0	+ 1	7168	6.0	76.7	00.8	3	+ 2	0
7049	8.9	82.1	02.9	3	- 5	- 1	7109	7.3	78.2	01.8	2	+ 8	- 3	7169†	8.1	77.1	00.8	3	0	- 8
7050†	4.8	82.0	02.9	3	+ 5	- 4	7110	9.5	83.4	00.3	3	- 2	- 3	7170	9.0	79.2	00.7	2	- 3	0
7051	9.4	78.6	01.6	4	- 5	+ 2	7111	8.8	77.7	02.3	3	+ 1	+ 1	7171	9.0	76.4	00.7	2	- 5	0
7052	8.6	81.9	04.3	2	+ 1	- 2	7112	9.0	77.2	01.4	2	- 7	+ 9	7172	7.0	92.4	03.3	2	+ 4	- 2
7053	8.9	85.7	01.6	3	- 1	- 1	7113	9.2	76.1	02.3	5	0	+ 1	7173	8.8	91.4	00.7	2	- 6	0
7054	8.8	79.4	01.1	3	+ 1	+ 1	7114	9.1	74.4	01.7	3	- 2	+ 1	7174	9.1	86.4	00.2	2	+ 3	+ 1
7055	9.0	78.4	01.2	5	- 9	- 1	7115	9.0	78.4	01.4	3	+ 5	- 6	7175†	9.5	85.4	00.8	3	-16	+ 4
7056	8.3	82.6	02.9	3	+ 3	+ 2	7116	7.9	81.2	01.4	3	+ 4	- 5	7176	9.0	80.1	00.7	2	+ 3	- 2
7057	9.3	78.4	97.8	2	- 4	- 1	7117	8.5	79.4	01.5	5	+ 2	- 5	7177	9.0	74.1	01.4	3	- 3	+ 1
7058	7.0	82.7	02.6	4	+ 9	- 1	7118	9.4	76.4	01.5	5	- 1	+ 3	7178	7.7	78.4	00.8	3	+ 6	0
7059	8.9	78.9	01.6	3	- 4	- 1	7119	9.0	77.1	01.8	2	0	+ 4	7179	9.1	83.4	03.3	2	- 3	+ 3
7060	9.1	77.7	02.9	3	0	+ 1	7120	9.5	73.4	01.8	2	- 2	+ 1	7180	9.4	75.9	01.8	2	+ 2	- 3
7061	7.6	78.1	98.0	3	+ 2	- 1	7121	9.5	83.8	02.3	3	- 9	+ 1	7181†	7.3	76.2	00.8	3	+10	+ 1
7062	7.2	82.8	01.1	3	+ 1	- 3	7122	9.0	79.4	02.1	3	- 4	+ 1	7182	9.1	84.4	00.7	2	- 4	- 1
7063	8.8	76.9	02.4	5	- 3	+ 1	7123	9.4	81.4	01.8	2	+ 4	- 3	7183	7.5	74.7	01.4	2	0	- 2
7064	9.0	83.2	99.9	3	+ 2	+ 2	7124	9.1	79.4	01.3	2	- 1	+ 2	7184	9.4	83.4	00.7	2	+ 3	0
7065	9.0	87.9	02.9	3	- 8	+ 9	7125†	5.6	78.2	01.8	2	+ 3	+ 2	7185	9.2	84.2	00.9	3	- 1	+ 2
7066	7.9	81.2	01.8	2	+ 4	- 3	7126	9.4	79.4	02.4	4	- 7	+ 2	7186†	9.3	72.4	01.8	2	0	+11
7067†	4.3	Fund.	01.1	3	-15	- 2	7127	8.8	80.4	01.8	2	+ 6	- 3	7187†	9.4	87.4	00.8	3	-12	+ 4
7068†	9.3	81.9	03.1	3	-10	- 5	7128	9.3	84.8	04.2	3	- 4	+ 6	7188	8.9	76.2	01.8	2	- 2	- 6
7069	9.3	80.7	01.4	4	- 1	0	7129	6.8	78.9	01.4	8	+ 8	+ 2	7189	8.0	76.0	99.1	4	+ 5	+ 2
7070	8.5	78.1	01.8	4	+ 6	0	7130	8.3	76.4	00.3	3	+ 1	+ 1	7190	8.0	83.9	99.1	4	+ 4	0
7071	8.0	78.1	01.8	4	- 1	- 3	7131	8.7	79.8	01.8	2	+ 3	- 2	7191	9.1	84.4	01.4	2	- 4	0
7072	9.4	84.4	04.3	2	- 4	0	7132	9.3	82.8	02.7	2	- 2	+ 1	7192†	9.5	89.4	95.7	3	-10	- 3
7073	9.1	87.9	04.3	2	0	- 3	7133	8.5	80.3	01.6	4	+ 4	+ 1	7193	7.3	80.7	96.9	2	+ 3	- 4
7074	9.4	88.9	02.3	3	- 6	- 3	7134	9.0	80.2	02.0	6	+ 5	- 4	7194	8.6	74.1	01.8	2	+ 4	+ 2
7075	9.4	77.4	01.1	3	- 2	0	7135	9.4	89.4	01.3	4	- 7	- 3	7195	8.8	79.9	01.4	2	- 2	+ 2
7076	8.0	81.4	01.8	2	0	+ 3	7136†	9.1	83.8	02.0	6	-12	- 5	7196	8.2	81.8	00.6	3	+ 2	+ 5
7077	8.8	77.2	02.3	3	+ 4	+ 1	7137	8.2	80.2	01.6	4	- 1	0	7197	8.6	82.1	00.7	2	0	0
7078	8.4	75.4	01.8	2	0	+ 1	7138	9.3	78.9	00.3	3	- 4	+ 1	7198	9.1	80.8	96.9	2	- 1	+ 3
7079	8.3	74.8	96.8	2	- 2	- 5	7139	8.7	78.1	01.4	2	+ 4	- 1	7199	9.0	82.1	01.8	2	+ 1	- 2
7080	8.4	81.9	01.8	2	0	- 5	7140	8.3	74.7	02.4	4	+ 9	0	7200	8.5	81.1	00.6	3	- 1	- 2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
7201	7.5	78.8	01.4	3	+ 5	+ 1	7261	9.0	76.2	01.1	3	- 2	- 1	7321	9.3	87.9	03.1	6	- 7	- 4
7202	9.3	87.4	96.9	2	- 7	0	7262	8.8	82.4	00.2	5	- 3	+ 2	7322	9.1	76.8	00.4	3	- 2	+ 5
7203	9.2	81.1	00.9	3	- 5	+ 2	7263	8.9	84.9	01.8	5	+ 1	+ 3	7323	7.5	80.5	02.2	5	+ 4	- 5
7204	8.0	84.7	00.9	3	+ 4	- 1	7264	8.6	84.4	01.2	5	+ 3	+ 1	7324†	9.5	93.4	02.2	5	+ 15	+ 3
7205	8.3	79.9	01.7	5	- 1	- 2	7265	9.0	87.1	01.2	5	- 7	+ 6	7325	9.0	84.4	00.4	3	- 2	+ 3
7206	7.8	85.5	00.9	3	- 3	- 1	7266	8.1	78.4	01.4	3	+ 2	+ 2	7326	7.9	74.1	98.8	2	- 7	+ 5
7207†	6.0	75.4	96.4	3	+ 9	- 3	7267	9.5	72.4	02.3	3	+ 2	0	7327	9.3	76.9	99.3	2	- 2	0
7208†	3.8	Fund.	01.8	2	- 8	+ 10	7268	9.5	84.8	01.9	2	+ 6	- 5	7328	9.2	73.4	04.3	2	- 5	- 1
7209†	9.4	86.4	96.4	3	- 15	- 5	7269	9.4	77.5	00.2	5	+ 4	- 3	7329	9.1	84.8	02.3	3	+ 5	+ 1
7210	8.9	77.9	98.6	3	- 2	+ 1	7270	9.0	76.1	00.7	2	+ 1	- 3	7330	8.5	81.0	99.3	2	+ 1	- 2
7211	9.5	95.1	96.4	3	+ 7	- 1	7271	9.5	93.4	00.9	3	+ 3	+ 2	7331	9.1	77.1	04.3	2	+ 8	- 6
7212	9.5	95.0	96.4	3	+ 4	+ 4	7272	9.2	88.9	00.2	5	- 1	0	7332	9.1	76.8	02.8	2	+ 1	0
7213	8.4	77.8	98.6	3	+ 1	- 6	7273	8.9	78.7	00.7	2	- 1	- 2	7333	8.5	76.8	03.9	4	- 2	+ 4
7214	8.1	81.8	97.3	4	- 5	+ 4	7274	8.8	78.7	01.4	2	- 2	+ 2	7334	8.8	75.4	00.7	2	- 3	- 6
7215	9.5	76.9	01.4	2	0	- 4	7275†	9.5	79.4	01.4	4	- 11	- 2	7335	8.3	76.1	00.7	2	+ 8	- 2
7216	8.7	79.9	00.9	3	- 3	- 1	7276	8.3	75.4	01.0	5	+ 5	- 1	7336	8.3	79.0	99.3	2	+ 1	- 2
7217	7.3	81.0	00.7	2	0	0	7277	9.2	77.5	01.4	4	+ 1	+ 1	7337	9.4	85.5	04.3	2	- 4	+ 4
7218	9.5	93.4	93.4	1	- 6	- 9	7278	8.8	75.8	01.4	4	- 1	- 4	7338	8.7	74.9	02.3	3	+ 4	+ 1
7219	8.3	79.4	96.4	3	+ 6	0	7279	8.9	81.3	01.3	2	- 4	0	7339	9.2	83.4	00.7	2	0	+ 2
7220	8.3	80.1	00.7	2	+ 2	- 1	7280	7.4	84.4	01.3	2	+ 3	- 3	7340	9.1	78.1	01.6	4	+ 1	- 2
7221†	7.4	75.8	94.4	2	+ 6	0	7281	8.0	77.6	01.0	5	+ 6	+ 2	7341	9.5	78.1	03.2	5	- 8	- 1
7222	9.0	81.9	01.9	2	0	- 4	7282	9.2	78.2	01.3	5	- 5	+ 2	7342	7.3	74.1	98.8	2	0	+ 2
7223	8.5	80.1	00.7	2	- 3	0	7283	8.6	82.5	00.9	4	- 4	+ 1	7343	9.0	86.0	02.8	2	+ 2	- 1
7224	9.5	82.9	01.9	2	- 7	+ 3	7284	9.4	88.8	02.0	6	- 1	0	7344	9.0	77.1	01.6	5	0	+ 4
7225	8.5	79.5	94.4	2	+ 2	+ 1	7285	8.0	79.4	00.0	3	0	- 2	7345	9.0	75.1	02.2	7	- 3	- 1
7226	9.0	92.4	01.4	2	- 5	+ 4	7286	8.6	80.0	98.9	2	0	+ 3	7346	9.1	81.7	01.6	4	- 2	- 2
7227	8.1	75.1	01.1	4	+ 7	+ 2	7287	9.0	76.4	00.5	3	+ 3	0	7347	9.1	85.9	03.2	5	- 3	+ 4
7228	9.0	80.5	01.7	3	+ 4	+ 1	7288	9.3	82.5	98.9	2	- 7	+ 1	7348	8.7	81.0	01.6	4	0	+ 4
7229	8.8	81.4	01.6	4	+ 6	- 4	7289	8.5	74.4	99.3	2	+ 2	- 3	7349	9.5	75.8	00.3	3	- 2	+ 1
7230	9.1	84.2	01.4	3	- 3	- 5	7290	9.4	85.8	02.9	4	- 6	- 1	7350†	var.	87.1	98.0	3	+ 4	- 1
7231†	9.2	89.9	93.4	1	- 13	+ 6	7291	9.0	75.1	02.9	4	+ 1	+ 3	7351†	9.4	90.4	00.3	1	- 13	+ 2
7232	8.5	76.1	00.7	2	+ 1	+ 4	7292	9.2	78.8	01.0	3	+ 7	+ 2	7352	9.0	75.1	98.8	2	- 2	- 2
7233	9.3	79.1	00.7	2	+ 2	- 2	7293	8.5	81.6	02.3	5	+ 2	- 1	7353	8.2	79.0	02.4	3	+ 2	0
7234	8.3	80.0	97.7	2	+ 1	- 2	7294	8.9	85.4	01.0	3	+ 1	+ 1	7354	9.4	89.5	02.4	3	- 3	+ 5
7235	9.3	77.1	96.3	3	0	- 1	7295	9.0	84.2	02.9	4	+ 8	0	7355†	4.7	78.5	02.1	3	- 2	- 5
7236	9.5	76.1	01.8	2	0	0	7296	8.0	83.5	98.9	2	- 2	- 2	7356	8.3	79.5	01.7	4	+ 6	- 6
7237	9.1	76.8	01.4	2	0	+ 4	7297	9.0	84.4	00.7	2	0	- 1	7357	9.1	84.8	02.1	3	- 2	+ 1
7238	9.1	83.1	98.5	3	- 3	+ 3	7298	8.1	88.4	00.7	3	- 2	- 4	7358	8.7	75.1	00.4	2	+ 4	- 3
7239	8.7	83.4	01.7	3	+ 1	+ 3	7299	8.5	79.9	00.7	2	+ 2	+ 2	7359	8.3	83.5	02.1	3	+ 5	+ 2
7240	8.6	84.5	00.5	3	- 1	+ 1	7300	9.0	76.4	98.9	2	- 1	+ 1	7360	9.5	73.5	00.4	2	- 4	0
7241	9.3	93.4	99.2	4	0	0	7301†	3.8	Fund.	03.0	3	- 2	+ 7	7361	8.3	74.4	00.3	1	+ 5	- 2
7242	8.1	80.1	00.7	2	0	- 9	7302	8.6	76.7	02.9	4	+ 4	0	7362	8.5	78.0	02.1	3	- 3	- 2
7243	8.9	84.4	00.7	2	- 5	- 2	7303	8.9	77.8	99.3	2	- 4	+ 4	7363	8.5	79.7	02.4	3	0	- 4
7244	9.0	82.9	01.8	2	- 7	+ 2	7304	8.9	78.4	02.9	4	0	- 1	7364	9.0	79.4	00.4	2	+ 6	0
7245	8.9	82.8	98.9	3	+ 4	- 3	7305	9.5	90.1	03.0	3	- 6	- 6	7365	9.0	77.0	02.4	3	- 2	+ 2
7246	8.5	74.9	01.8	2	+ 4	- 4	7306	9.0	85.1	98.9	2	+ 2	+ 1	7366	9.0	78.1	02.4	3	0	- 1
7247	8.7	85.4	98.9	3	- 9	+ 1	7307	8.5	78.8	98.8	2	+ 2	- 3	7367	7.8	76.5	03.7	4	+ 1	- 1
7248	8.1	79.0	97.7	2	+ 2	- 1	7308	9.0	87.4	02.9	4	- 6	+ 2	7368	8.8	76.7	99.3	2	+ 1	- 3
7249†	9.3	83.4	02.3	3	- 12	- 7	7309†	8.0	78.9	00.7	3	+ 5	- 1	7369	9.0	80.2	99.3	2	- 1	+ 4
7250	9.3	88.4	00.7	2	0	- 1	7310	9.0	83.4	98.8	2	+ 3	- 2	7370	8.3	80.8	98.8	2	0	- 1
7251	9.4	85.9	00.7	2	- 8	- 2	7311	9.1	89.4	00.7	2	- 3	+ 1	7371	9.1	80.6	00.4	2	- 8	+ 7
7252	8.8	81.4	01.8	2	+ 3	+ 4	7312	9.4	82.4	02.0	5	- 9	0	7372	7.3	85.2	02.8	2	+ 4	0
7253†	2.0	Fund.	98.9	3	+ 15	- 6	7313	8.0	78.1	03.1	6	+ 1	0	7373	8.8	84.6	99.3	2	0	- 2
7254	8.5	80.4	00.7	2	+ 6	0	7314	7.3	88.0	04.3	2	- 1	- 2	7374	9.4	75.5	00.4	2	- 8	0
7255	8.6	84.4	00.7	2	- 3	+ 4	7315	8.7	88.4	03.1	6	+ 1	+ 2	7375	8.9	81.5	98.8	2	+ 3	- 3
7256†	8.2	74.9	99.3	3	+ 12	- 11	7316	9.1	88.5	02.0	5	+ 2	0	7376	9.2	85.0	02.8	5	- 2	0
7257	9.0	84.9	99.3	3	- 3	- 2	7317	9.2	76.8	00.9	3	0	- 2	7377	8.0	73.8	98.8	2	- 2	0
7258†	9.4	88.4	01.3	2	- 13	- 6	7318	8.9	81.5	03.1	6	+ 7	- 1	7378	7.8	81.5	99.3	2	- 2	- 1
7259	9.4	93.4	00.7	2	+ 2	+ 2	7319	9.3	90.4	03.1	6	- 9	0	7379	8.6	76.3	00.4	2	+ 4	- 1
7260†	9.5	93.4	01.3	2	- 47	- 3	7320	9.0	76.4	01.8	7	+ 3	+ 3	7380	8.1	77.8	98.8	2	0	+ 4



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
7381†	9.5	77.5	02.1	3	-11	+6	7441	8.7	82.5	93.5	1	+4	-6	7501	7.5	75.5	00.4	2	+6	0
7382	8.8	78.0	02.1	3	-1	-1	7442	9.2	86.1	93.5	1	-8	+1	7502	9.4	73.5	00.4	2	-6	-4
7383	8.3	78.5	99.9	3	0	-1	7443	7.8	76.1	02.1	3	-3	0	7503	9.0	78.2	98.8	2	-4	+2
7384	8.9	77.8	02.1	3	+4	-2	7444	8.2	81.2	99.3	2	+8	-1	7504	9.1	80.5	99.4	2	+2	+3
7385	8.1	78.0	00.4	3	+3	0	7445	8.2	76.4	00.4	2	+5	0	7505	8.0	76.4	00.4	2	+4	+2
7386	8.6	75.5	02.1	3	+5	-5	7446†	8.4	75.1	98.8	2	-2	0	7506	8.8	84.5	02.4	2	-1	0
7387	9.0	79.0	99.9	3	-1	+6	7447	9.5	76.5	98.8	2	+6	+2	7507	7.5	74.8	99.4	2	+2	+1
7388	9.1	84.5	02.4	3	+3	+1	7448	8.9	76.5	00.0	3	+7	+1	7508	8.6	85.0	02.4	2	+3	+2
7389	9.3	76.5	98.8	2	0	+1	7449	9.0	76.1	00.4	2	+7	+4	7509	9.0	75.0	00.4	4	+5	-1
7390†	9.2	81.7	99.3	2	-10	+3	7450	9.0	81.5	02.1	3	-1	-1	7510	9.5	74.4	99.4	2	0	+4
7391	9.0	76.2	02.4	3	+1	-6	7451	8.1	77.0	02.1	3	+1	0	7511	7.1	74.8	00.7	3	+6	-2
7392	8.8	80.2	00.3	1	0	0	7452	9.0	81.5	98.8	2	-2	-3	7512	9.5	78.2	00.7	3	0	-1
7393	9.5	80.8	01.7	4	-1	+8	7453†	5.0	87.8	02.8	2	-2	+3	7513	6.7	79.2	00.0	3	0	+5
7394	8.3	82.4	02.1	3	0	+1	7454	9.1	84.5	02.1	3	-7	0	7514†	9.5	78.0	00.7	3	-11	+1
7395	8.3	82.8	02.1	3	+2	+1	7455	9.1	78.2	02.1	3	0	-2	7515	9.0	73.8	00.4	3	-2	+1
7396	7.2	77.0	99.3	2	+4	-1	7456	9.0	79.7	01.9	4	+2	0	7516	9.1	84.0	99.4	2	+1	+1
7397†	8.0	75.1	98.8	2	+14	-8	7457	7.7	76.4	02.1	3	+1	-5	7517†	9.4	79.0	99.4	2	-10	+3
7398	8.0	74.8	00.3	3	+8	0	7458	9.1	78.7	99.9	4	+2	0	7518	8.7	74.4	00.4	3	-4	-2
7399	8.3	77.7	00.1	4	-2	+1	7459†	9.4	83.5	02.1	3	+14	-4	7519	9.0	87.0	02.4	2	-1	+1
7400	9.5	79.5	96.9	2	-8	-6	7460	8.5	74.2	00.4	3	+5	-1	7520	9.5	73.4	99.4	2	-3	+4
7401	9.0	85.5	00.1	3	+1	+2	7461	9.0	76.8	99.4	2	+1	-4	7521	8.1	81.5	99.4	2	+2	-2
7402	8.5	80.1	93.5	1	0	-4	7462	8.5	80.1	99.9	4	-1	+3	7522	9.5	81.4	99.4	2	0	+1
7403	9.4	75.1	98.0	3	-4	-2	7463†	9.3	75.4	01.3	2	-9	-2	7523	8.9	78.5	99.4	2	+3	-3
7404†	4.0	Fund.	00.4	2	+2	-4	7464	9.1	73.8	99.4	2	-1	+1	7524	7.3	79.3	00.4	2	+4	-6
7405	9.5	93.4	00.4	2	+8	+4	7465	9.2	88.2	01.0	5	-9	+2	7525	8.5	75.5	00.7	3	+7	-4
7406	9.2	80.0	02.1	3	-1	-1	7466	9.5	74.1	98.8	2	-2	0	7526	9.2	80.0	01.3	2	+1	-2
7407	9.2	84.8	99.9	4	+2	+1	7467	9.5	80.1	00.1	3	-4	0	7527†	9.4	77.5	00.9	4	-17	+1
7408	9.3	84.5	00.4	2	-2	0	7468†	7.5	78.7	01.2	4	-34	+50	7528	8.8	79.5	00.7	3	-2	+4
7409	8.7	85.8	00.1	3	-4	+2	7469	9.3	72.5	99.4	2	0	+3	7529	7.3	75.5	99.7	3	-3	-2
7410†	9.5	82.4	00.4	2	-20	-2	7470	9.1	77.4	01.4	5	0	+4	7530	8.8	77.5	99.4	3	+4	0
7411	9.1	81.5	02.1	3	-3	+2	7471	9.0	75.1	01.0	5	-3	+2	7531	9.4	73.5	00.4	4	+5	-1
7412	9.0	77.5	02.1	3	+1	-4	7472	9.0	81.2	01.0	5	+2	+1	7532	9.5	81.0	01.0	3	-9	-2
7413†	9.5	95.2	01.4	1	+7	-1	7473	9.5	75.4	00.1	3	-6	0	7533	9.0	76.5	00.6	4	-7	+3
7414	9.0	73.7	99.3	2	-4	+4	7474	8.9	75.1	00.4	2	-1	0	7534	9.3	81.0	00.4	4	-7	+4
7415	8.6	78.5	00.4	2	+7	-4	7475	9.0	76.4	01.9	4	+5	0	7535	8.6	76.4	00.4	4	+2	-1
7416†	9.3	92.4	02.1	3	-13	+2	7476	9.4	84.5	99.4	2	-4	-5	7536	9.2	84.5	99.4	3	-9	+1
7417	9.0	86.5	00.4	2	-4	-3	7477†	8.9	77.1	01.9	4	+12	+1	7537	8.1	74.8	99.4	3	+7	-2
7418	8.5	83.4	02.1	3	+2	+2	7478†	9.5	81.5	00.1	3	-13	+1	7538	8.3	82.8	00.6	4	-1	+2
7419†	8.1	81.1	00.1	3	-1	-11	7479†	9.5	79.8	98.8	2	-12	+1	7539	6.5	77.5	99.4	3	+9	+2
7420†	8.0	75.1	99.0	3	-54	+27	7480	9.0	75.7	04.9	4	-1	-3	7540	8.8	75.1	98.8	2	+1	+2
7421	9.0	84.5	00.1	3	+1	-1	7481	9.1	84.5	99.4	2	+1	+3	7541	8.5	77.9	99.4	2	-2	+1
7422	8.9	84.5	02.1	3	+4	+1	7482	9.2	84.5	03.2	4	0	0	7542	8.3	75.7	00.4	2	0	-1
7423	8.2	79.0	93.5	1	+3	+3	7483	9.3	72.5	99.4	2	-3	+4	7543	9.0	76.5	98.9	2	+2	+1
7424	9.0	88.5	00.1	3	+1	+3	7484	9.2	74.6	00.1	3	0	-4	7544	9.2	80.5	98.9	2	0	0
7425	8.8	83.4	02.1	3	+6	-1	7485	9.3	78.9	98.8	2	+4	0	7545	9.2	84.2	00.4	2	0	+2
7426	9.1	92.5	00.1	3	+1	0	7486	8.3	75.6	03.2	4	+1	-4	7546	9.3	80.7	99.9	2	-3	+1
7427	9.0	91.1	00.1	3	0	-4	7487	9.5	73.4	01.4	4	-5	-2	7547	9.2	82.5	00.6	3	-2	-1
7428	9.0	78.5	00.4	2	-1	0	7488	9.1	73.8	99.4	2	-3	-3	7548†	7.5	73.5	98.9	2	-4	0
7429	9.0	87.0	00.7	3	-5	+5	7489	9.3	75.5	98.8	2	-6	+1	7549	9.5	76.8	99.4	2	+1	-3
7430	7.0	75.0	99.3	2	+2	-3	7490†	7.5	76.0	99.4	2	+5	0	7550†	9.5	85.4	99.4	2	+10	0
7431	9.2	84.5	00.1	3	+1	+3	7491	9.0	81.5	02.4	2	-1	+1	7551	9.4	75.5	99.4	2	-2	+2
7432	8.0	78.5	01.5	5	+6	+2	7492	9.5	73.5	01.8	5	+3	+1	7552	9.5	81.5	99.4	2	+1	+6
7433†	var.	76.4	01.5	5	-2	+1	7493	8.7	81.3	99.4	2	+1	0	7553	9.3	77.8	99.4	2	-4	0
7434†	9.4	86.5	93.5	1	-10	-4	7494	8.8	77.1	99.4	2	+1	-5	7554	8.9	84.5	00.3	1	+6	-2
7435	9.5	93.4	93.5	1	-7	-3	7495	9.2	83.1	01.4	6	0	+1	7555	9.0	72.4	99.4	2	-5	-1
7436	9.2	76.5	98.8	2	+2	+1	7496	8.5	75.5	01.8	5	+4	-4	7556	8.1	76.1	99.9	4	+1	-4
7437	8.3	73.4	99.3	2	-4	0	7497	9.3	84.8	00.4	2	-8	0	7557	6.5	79.2	00.4	2	+3	-3
7438	9.1	81.4	01.5	5	-2	+1	7498	9.0	84.8	00.4	2	0	+1	7558	8.4	77.3	00.0	3	+6	+5
7439†	9.5	73.5	00.4	2	-12	+2	7499	9.2	77.0	99.4	2	+2	+5	7559†	8.3	75.5	99.4	2	+3	-4
7440	9.1	79.5	99.3	2	-4	0	7500	8.7	76.5	98.8	2	+6	+2	7560	8.6	75.0	00.0	3	+5	+2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
7561	8.7	75.1	98.9	2	+ 8	- 6	7621	9.2	85.8	93.4	1	- 2	0	7681	8.1	79.7	99.4	2	0	+ 2
7562	9.4	82.5	99.7	3	- 4	+ 2	7622	9.5	77.5	99.4	2	+ 9	- 1	7682	8.5	73.4	01.5	3	+ 4	0
7563	9.0	83.1	99.4	2	0	0	7623	9.1	84.5	03.4	3	- 3	- 2	7683	8.9	80.5	01.2	3	+ 1	- 1
7564	8.6	82.8	99.4	2	0	+ 2	7624	9.3	94.7	93.4	1	+ 2	- 4	7684	9.4	90.0	01.5	3	- 1	0
7565	9.1	75.1	98.9	2	- 6	+ 2	7625	9.3	78.5	98.8	2	0	+ 1	7685	7.9	79.8	00.3	5	+ 2	- 3
7566†	5.5	80.0	99.4	2	+ 7	- 4	7626	9.0	81.5	98.8	2	- 2	0	7686	9.4	80.0	01.5	3	+ 1	- 3
7567	8.9	85.5	99.2	3	0	+ 1	7627	9.3	84.5	93.4	1	+ 6	- 3	7687	8.8	78.7	00.4	4	0	+ 3
7568	9.1	84.8	00.4	3	- 6	0	7628	8.5	75.7	03.4	3	+ 5	0	7688†	8.5	77.9	99.5	3	- 4	- 13
7569	8.4	75.1	00.4	2	+ 4	+ 3	7629	6.8	84.5	98.8	2	+ 3	+ 1	7689	9.1	83.5	01.2	3	+ 7	- 2
7570	9.2	86.5	99.2	3	+ 3	0	7630	9.2	75.0	97.7	3	- 2	- 1	7690	8.0	82.2	01.5	3	+ 5	+ 4
7571†	...	...	...	...	...	...	7631	7.5	74.7	01.8	3	- 1	- 1	7691	9.1	79.8	01.5	3	- 5	+ 2
7572	7.5	77.7	99.4	2	0	+ 1	7632	9.2	87.0	02.5	2	- 3	- 3	7692	7.5	76.1	99.5	3	+ 2	0
7573	7.7	78.5	00.4	2	+ 4	+ 2	7633	9.4	74.8	02.1	4	- 6	+ 3	7693	9.0	89.5	01.5	2	- 4	0
7574	9.4	78.7	99.4	2	- 8	0	7634	8.9	75.3	02.1	4	+ 2	0	7694	7.7	75.0	00.4	4	+ 1	- 1
7575	9.5	77.0	99.4	2	- 3	+ 2	7635	8.5	81.1	99.7	4	+ 2	- 3	7695	9.0	89.0	01.5	2	- 3	- 2
7576	8.8	79.7	99.9	2	+ 6	+ 1	7636	9.3	80.5	02.4	5	- 6	- 2	7696	9.0	74.5	01.2	3	+ 5	+ 1
7577†	6.5	79.5	99.9	2	+ 8	+ 3	7637	8.6	83.2	01.4	6	0	+ 2	7697	8.6	79.5	01.5	3	- 2	- 3
7578	9.4	88.5	00.0	3	- 6	0	7638	9.1	78.0	02.1	4	+ 2	0	7698	7.9	78.6	00.5	2	+ 3	0
7579	9.4	77.3	00.3	2	- 1	+ 4	7639†	9.5	94.9	93.4	1	+ 14	+ 2	7699	9.2	75.0	01.8	4	- 9	0
7580	9.2	82.8	99.9	2	- 1	- 7	7640	9.0	74.1	01.5	3	- 1	+ 1	7700†	9.3	91.5	00.5	2	- 16	0
7581	9.4	81.1	99.9	2	- 7	+ 2	7641	9.3	79.5	01.1	3	- 6	0	7701†	9.4	87.5	01.5	2	- 12	- 4
7582	9.4	77.4	00.3	2	- 8	- 6	7642	7.9	76.2	96.4	2	+ 1	- 1	7702	8.8	75.5	00.8	4	- 2	+ 3
7583	9.1	76.5	98.9	2	+ 4	+ 2	7643	8.4	84.5	93.4	1	- 3	- 2	7703†	7.8	78.2	00.9	3	+ 17	0
7584	8.9	84.5	00.4	3	- 2	+ 2	7644	9.5	73.5	03.4	3	- 5	- 4	7704	8.4	80.7	00.9	3	- 2	0
7585	9.5	75.7	00.4	2	- 5	+ 1	7645	9.3	86.5	96.4	2	- 4	- 5	7705	9.1	75.8	99.8	4	- 2	+ 2
7586†	9.4	85.5	99.9	2	+ 12	- 2	7646	9.2	86.5	02.7	3	- 3	- 1	7706	8.8	82.1	00.9	3	- 6	+ 2
7587	9.4	77.5	00.3	1	- 2	- 6	7647	9.1	78.5	01.5	4	- 5	- 2	7707	9.0	80.9	00.9	3	0	0
7588	9.2	81.5	00.4	2	- 2	- 3	7648	8.7	76.8	96.4	2	+ 4	- 2	7708	9.4	75.5	99.5	2	- 3	+ 7
7589†	9.4	79.0	02.3	4	- 14	+ 3	7649	9.1	84.5	03.4	3	+ 3	- 1	7709	7.7	79.9	00.9	3	- 2	+ 1
7590†	9.5	77.0	02.1	4	- 12	+ 3	7650	9.2	80.5	00.7	3	- 2	0	7710	8.8	84.5	01.5	2	+ 6	- 4
7591	8.5	78.5	02.1	4	+ 4	+ 1	7651	9.0	76.1	03.4	3	+ 5	0	7711	9.2	74.9	99.5	2	+ 1	+ 3
7592	8.9	80.5	02.0	5	- 1	- 6	7652	9.1	84.5	03.4	3	- 8	+ 5	7712	9.3	85.5	01.5	2	- 6	0
7593	9.1	84.8	96.9	2	- 4	0	7653	9.1	88.5	02.4	5	- 2	0	7713	9.2	80.5	00.9	3	- 1	- 1
7594	7.5	79.5	02.3	4	+ 7	- 1	7654	9.0	79.8	99.7	4	+ 5	+ 1	7714	9.3	77.5	99.5	2	+ 1	+ 3
7595†	9.3	81.5	96.9	2	- 46	+ 4	7655	9.0	81.5	01.1	3	+ 3	+ 2	7715	9.0	82.5	01.7	2	+ 2	+ 7
7596	7.9	74.8	02.1	4	+ 4	+ 2	7656	9.5	73.5	96.4	2	0	+ 6	7716	9.0	75.0	99.5	4	+ 6	+ 2
7597	8.4	79.5	02.1	4	0	- 2	7657	8.9	79.1	02.4	4	+ 6	+ 2	7717	8.8	76.2	98.1	3	- 2	+ 2
7598	9.3	81.1	02.2	5	0	+ 3	7658	9.0	80.7	96.4	2	- 3	0	7718	8.9	73.8	01.7	2	+ 4	+ 2
7599	8.6	75.0	98.0	3	+ 4	+ 2	7659	9.2	80.5	01.9	4	+ 1	+ 2	7719	8.5	75.5	99.5	4	+ 1	+ 2
7600	9.3	80.7	03.4	3	- 5	+ 1	7660	9.1	86.5	99.0	4	- 6	0	7720	9.0	75.7	99.0	4	- 3	+ 2
7601	9.1	76.5	98.8	2	- 1	0	7661	7.9	77.7	99.0	4	+ 1	- 3	7721	8.5	79.8	02.2	3	+ 1	- 2
7602	9.4	80.2	00.6	4	0	+ 2	7662	6.5	81.2	01.9	4	+ 4	+ 4	7722†	9.4	86.2	01.7	2	- 10	- 2
7603†	8.5	82.5	03.4	3	+ 7	+ 12	7663	8.8	79.5	01.9	4	+ 2	0	7723	9.5	75.5	98.8	3	+ 2	0
7604	8.6	73.4	99.4	2	- 3	- 4	7664†	9.3	86.5	98.8	3	- 6	+ 1	7724	9.3	89.5	99.5	4	- 2	+ 1
7605	8.4	79.2	99.4	2	0	- 1	7665	8.6	84.2	99.0	4	+ 2	- 1	7725	9.3	79.6	01.6	2	- 5	+ 2
7606	9.5	73.4	00.8	4	- 1	- 1	7666	8.4	73.5	01.5	3	- 2	- 3	7726	9.5	73.5	99.0	4	- 8	+ 1
7607	9.2	83.2	03.4	3	+ 7	- 1	7667	9.0	80.1	02.4	4	+ 3	+ 1	7727	7.7	76.2	98.1	3	+ 4	- 5
7608	8.5	84.5	99.4	2	- 3	0	7668	9.2	75.5	99.0	4	+ 4	+ 3	7728	9.3	75.7	97.5	2	0	0
7609	9.5	78.5	98.8	2	- 2	+ 1	7669	6.8	83.2	01.5	3	+ 2	+ 1	7729	9.5	94.1	02.0	2	+ 3	- 7
7610	8.8	80.8	03.4	3	0	- 4	7670	9.0	80.3	99.0	4	- 1	- 1	7730	8.2	79.2	98.8	3	+ 3	+ 5
7611	9.5	74.7	00.0	3	- 4	- 2	7671	9.2	78.9	01.5	3	- 1	+ 1	7731†	9.5	80.5	02.0	2	- 11	+ 10
7612	8.6	74.5	96.9	2	+ 6	0	7672	9.2	80.5	00.8	3	- 3	- 2	7732	9.4	93.0	98.5	2	+ 2	+ 2
7613	9.4	79.8	03.4	3	- 6	- 1	7673	9.3	80.1	99.4	2	- 6	- 2	7733	9.1	84.5	01.6	2	- 2	- 1
7614	9.0	74.1	96.9	2	+ 3	- 4	7674	9.3	76.1	00.4	4	+ 1	0	7734	8.0	81.5	98.5	2	+ 3	+ 1
7615	8.3	78.5	98.8	2	0	+ 2	7675	9.1	86.5	01.7	4	0	- 1	7735	7.6	74.1	01.9	3	+ 4	- 3
7616	9.4	85.5	00.4	3	+ 1	+ 1	7676	8.5	81.5	01.2	3	+ 4	- 3	7736	9.1	84.5	01.6	2	0	- 2
7617	8.5	88.5	00.4	3	+ 4	- 2	7677	9.4	79.5	01.2	3	- 3	+ 1	7737	6.5	82.5	98.5	2	+ 4	0
7618	9.3	77.2	03.4	3	- 3	- 2	7678	9.1	84.5	01.5	3	+ 4	- 1	7738	8.8	81.3	98.5	2	0	- 1
7619†	9.2	84.5	96.9	2	- 11	+ 4	7679	9.4	83.5	01.2	3	- 7	+ 3	7739	8.7	80.5	02.2	3	+ 4	0
7620†	9.4	93.4	00.4	3	+ 8	+ 7	7680	8.8	76.1	00.5	2	+ 2	- 3	7740	8.7	74.1	96.5	2	- 1	- 2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
7741	9.0	83.8	99.5	3	0	-3	7801	9.3	79.5	99.4	2	-3	+2	7861†	5.3	84.8	04.9	2	+7	0
7742†	8.0	74.1	02.2	3	-6	-18	7802	8.2	79.3	00.5	2	+4	-3	7862	7.0	74.1	03.1	3	+1	-3
7743	9.0	77.7	02.2	3	-1	0	7803	8.9	76.5	99.4	3	+3	-3	7863†	9.5	76.1	99.0	4	-10	-1
7744	7.4	84.5	93.5	1	+2	-3	7804	8.6	78.0	00.5	2	+2	-1	7864	8.9	81.2	00.5	4	-5	+1
7745	9.5	93.4	93.5	1	+2	-6	7805	9.0	77.2	99.4	2	-5	-8	7865	6.8	79.5	99.9	3	+2	+3
7746	9.1	85.5	01.9	3	-1	0	7806	8.2	79.2	99.4	2	+1	-2	7866	9.4	77.8	00.1	3	-6	+4
7747	9.0	78.3	98.5	2	+5	0	7807	9.0	77.0	02.0	2	-7	-4	7867	9.1	85.0	98.8	3	+3	-1
7748	9.4	75.5	01.6	2	0	-1	7808†	8.8	85.5	99.4	1	-5	-2	7868	9.0	81.5	99.0	2	+4	+1
7749	9.0	74.1	97.5	2	-4	0	7809	9.1	81.5	00.5	2	+4	+1	7869	9.5	73.5	01.1	3	+5	-3
7750	9.1	86.5	99.5	3	-3	0	7810†	8.5	82.2	00.5	2	+10	-2	7870†	9.0	75.8	99.0	2	-6	+11
7751	9.3	76.0	96.5	2	-5	-2	7811	9.1	84.8	00.5	2	+2	-2	7871	9.1	75.5	97.5	2	+3	-2
7752	9.0	80.1	98.1	3	-5	+1	7812	9.2	85.5	99.4	2	-2	0	7872	9.5	77.5	97.5	2	-7	+4
7753	7.3	84.2	02.0	2	+3	+1	7813	9.4	84.5	99.4	2	-6	-2	7873	9.3	79.0	96.5	2	-9	0
7754†	9.1	86.5	98.5	2	-1	+2	7814	9.3	88.0	00.5	2	-8	0	7874	9.1	78.1	03.0	3	-5	-1
7755	9.5	73.5	97.5	3	+4	0	7815	8.7	81.5	00.5	2	+2	+2	7875	9.1	80.3	99.4	2	-2	+2
7756	8.2	76.0	97.5	3	-2	+1	7816	9.5	85.5	99.4	3	+1	-3	7876	8.6	78.5	97.5	2	+3	-1
7757†	9.2	76.5	02.0	2	-2	+2	7817	9.5	83.0	99.4	2	0	+1	7877	8.9	82.8	97.5	2	+3	-4
7758	9.3	76.8	01.6	2	-6	-4	7818†	9.3	81.5	00.5	2	-12	0	7878	9.2	85.5	99.4	2	-9	-1
7759	9.3	82.5	02.0	2	-5	+4	7819	9.5	78.5	99.4	3	-1	+5	7879	9.4	81.8	97.5	2	-4	+2
7760	8.1	78.5	02.2	3	+1	+5	7820	9.0	74.5	01.6	2	-1	+1	7880	9.1	89.0	99.7	4	+1	+2
7761	7.9	80.1	02.0	2	-2	-6	7821	9.5	80.0	99.4	2	-5	+1	7881	8.9	81.8	99.4	2	+4	+2
7762	6.0	84.5	96.4	2	+5	-4	7822	8.4	77.5	02.0	2	0	+2	7882	9.1	83.5	99.7	4	0	+2
7763	9.3	86.2	96.1	3	-5	-1	7823	9.1	82.0	01.6	3	0	+1	7883	8.7	81.0	99.4	2	+2	+1
7764	9.0	76.2	97.4	2	0	+3	7824	9.4	83.0	00.8	3	-4	0	7884	8.5	77.4	98.5	2	0	+3
7765	9.4	92.4	96.1	3	+2	-1	7825	9.2	79.0	01.6	3	-4	+4	7885	9.0	84.5	99.4	2	-2	+2
7766	9.4	81.5	01.6	2	-3	0	7826	8.2	78.5	01.6	3	+4	0	7886	9.4	77.5	98.5	2	+6	-6
7767	8.9	80.2	01.6	2	-4	0	7827†	8.4	76.0	99.5	3	+2	+4	7887	9.2	84.1	98.5	2	+6	-1
7768	9.1	86.5	01.6	2	+6	-1	7828	9.1	85.5	99.5	3	-4	+2	7888	9.1	82.9	98.5	2	0	+1
7769	7.3	82.2	97.4	2	0	-3	7829	8.9	75.5	02.2	3	-1	0	7889	9.3	86.5	99.4	2	0	+4
7770	9.2	73.4	96.4	2	+6	-4	7830	9.1	84.5	00.3	5	+1	-3	7890	9.1	77.0	98.5	2	+2	+2
7771†	6.0	76.5	98.5	2	+8	0	7831	7.8	79.0	99.5	3	+6	+1	7891†	6.4	79.1	01.1	3	+9	-5
7772	9.3	84.0	97.4	2	-4	+2	7832	8.1	75.5	00.8	3	+4	+2	7892	7.6	77.5	99.0	2	+5	-1
7773	8.7	82.5	02.0	2	-2	+2	7833	7.8	75.5	99.5	3	+3	0	7893	8.6	84.8	99.0	2	-2	-4
7774	8.9	77.2	96.4	2	-3	+1	7834	9.1	81.7	99.5	3	0	-1	7894	7.3	78.5	99.4	2	+4	0
7775†	9.5	79.0	98.5	2	-15	0	7835	9.4	78.8	00.5	2	-3	-3	7895	9.4	80.3	99.0	2	-4	-1
7776	8.8	80.8	96.4	2	-2	+8	7836	9.4	77.7	99.5	2	-3	+2	7896	9.3	81.0	98.5	2	-5	0
7777	9.4	77.1	01.9	3	-1	0	7837	9.2	82.5	99.5	2	-3	-4	7897	8.8	84.8	00.2	4	0	-1
7778†	9.2	77.5	01.9	3	+15	+1	7838†	6.8	85.0	02.5	2	-2	+2	7898	9.5	73.5	97.5	3	-7	+4
7779	7.1	84.0	96.1	3	+4	-3	7839	8.8	82.3	99.5	2	+6	-2	7899	9.1	84.8	00.2	4	-6	0
7780	9.2	85.5	97.4	2	0	-2	7840	8.3	75.8	99.5	2	+4	-3	7900	8.3	76.5	99.5	3	+7	-2
7781	8.2	80.8	97.4	2	+3	-2	7841	9.5	73.5	01.6	2	+2	+6	7901	9.3	81.0	99.2	5	-2	-2
7782	8.9	80.5	01.6	2	+6	-1	7842	8.7	78.8	01.6	2	+2	-2	7902	8.9	75.5	99.8	3	0	+2
7783	9.4	77.5	98.5	2	-4	+3	7843	9.5	74.1	01.9	3	-8	-5	7903	9.0	75.5	97.5	3	+2	-1
7784	9.0	83.5	02.0	2	-2	+2	7844	7.8	75.5	01.6	2	-2	0	7904†	9.3	83.2	99.5	3	-9	-5
7785	8.2	77.1	96.4	2	-1	0	7845	9.1	84.5	00.2	3	+9	+1	7905	9.0	75.8	00.2	4	-2	-2
7786	9.5	80.0	98.8	3	-3	+1	7846†	9.3	81.7	00.5	2	-11	+4	7906	9.2	82.3	98.5	2	0	-2
7787	9.5	93.4	99.0	4	+8	+2	7847	7.0	77.2	99.5	2	+3	-1	7907	8.8	79.2	99.8	3	+2	0
7788	9.0	82.0	98.1	3	-1	+3	7848	9.2	74.8	99.5	3	0	0	7908	8.3	76.2	00.4	3	+4	0
7789	8.6	77.8	02.0	2	+1	-3	7849	8.9	81.0	00.5	2	+2	0	7909	9.5	83.4	00.4	3	+9	+2
7790	8.3	78.2	98.1	3	+1	-1	7850	8.9	79.2	01.6	2	0	-2	7910	8.9	75.8	99.4	2	+1	0
7791	9.5	94.0	97.4	2	+7	-2	7851	9.1	85.5	00.5	2	-2	+2	7911	8.5	86.0	00.4	3	-2	+2
7792	9.5	76.5	99.5	4	-4	-2	7852	8.9	84.3	00.9	3	+2	0	7912	9.2	83.1	99.4	2	-3	0
7793	9.5	93.5	98.1	3	-7	+1	7853	8.9	83.8	99.5	2	-2	0	7913†	6.3	82.3	00.4	3	+3	0
7794	8.7	75.2	01.6	2	0	+2	7854	8.8	79.8	02.0	2	0	-2	7914	9.2	85.5	00.4	3	-4	0
7795	9.4	86.5	02.2	3	-7	+4	7855†	6.1	85.0	02.2	3	+3	+1	7915	8.9	80.8	00.4	3	+4	+1
7796	8.5	74.7	02.0	2	0	-2	7856	8.5	81.5	00.5	2	+4	+2	7916	9.3	86.5	00.4	3	-7	0
7797	9.0	75.1	99.4	2	+3	-6	7857	8.0	73.8	00.1	3	+8	-6	7917	9.2	85.5	00.4	3	-4	-3
7798†	7.1	75.2	01.6	2	+4	-2	7858	9.1	85.0	04.9	2	-2	+1	7918†	9.2	79.7	98.2	3	+5	+12
7799	8.1	84.7	99.4	1	+4	-2	7859	8.8	80.3	99.9	3	0	-1	7919	9.5	93.4	98.2	3	+8	0
7800	8.5	75.9	99.4	2	-2	-2	7860	7.0	76.8	99.9	3	+1	-1	7920	9.3	84.5	00.1	3	+1	-3



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
7921	9.1	78.2	00.4	3	+ 2	- 1	7981	9.4	76.2	01.1	4	- 4	0	8041	9.1	80.3	02.1	4	- 4	+ 1
7922	8.6	80.5	00.4	3	- 3	+ 2	7982	9.0	78.5	01.1	4	+ 1	- 2	8042	9.3	78.9	00.5	2	- 3	+ 3
7923	9.5	87.0	98.2	3	- 1	+ 6	7983	8.9	79.1	99.4	2	- 1	- 1	8043†	9.5	79.5	01.1	5	-19	+ 7
7924	9.5	72.5	99.4	2	- 7	- 2	7984	9.5	77.5	01.7	5	- 9	+ 2	8044	9.4	79.0	00.5	2	- 4	0
7925	8.6	76.5	98.9	2	+ 2	- 1	7985	8.3	80.1	00.5	2	+ 6	+ 2	8045	9.0	75.8	00.2	3	0	- 2
7926	9.1	81.2	99.4	2	- 2	- 1	7986	9.1	84.5	01.1	4	- 6	0	8046	7.1	75.5	02.2	3	+ 4	+ 2
7927	9.0	75.0	98.9	2	+ 2	- 3	7987	9.4	76.2	00.5	2	- 2	+ 1	8047	9.3	74.1	04.2	4	+ 4	- 4
7928	9.5	76.5	96.5	2	- 8	+ 1	7988	9.4	86.5	99.4	2	+ 2	- 2	8048	8.8	81.2	02.1	2	+ 4	- 3
7929	9.5	93.5	96.5	2	+ 6	- 2	7989†	7.3	78.0	98.9	2	- 2	+ 1	8049	8.2	79.8	02.1	2	+ 2	0
7930	8.3	81.8	98.5	2	0	- 3	7990	8.1	82.8	98.9	2	+ 3	- 4	8050	9.0	83.5	04.2	4	- 6	0
7931	9.3	75.8	98.5	2	- 6	0	7991	8.0	76.2	99.4	2	+ 3	- 2	8051	9.2	84.9	04.9	2	- 5	- 4
7932	8.6	79.5	00.4	3	0	- 2	7992	8.5	74.8	02.2	3	+ 2	- 1	8052	9.1	77.5	00.5	2	- 2	- 3
7933	9.3	76.5	98.9	2	- 4	+ 6	7993	9.0	76.0	00.5	2	0	0	8053†	9.2	87.0	04.9	2	-19	- 2
7934	9.5	75.0	99.4	2	- 2	- 2	7994	8.2	80.3	02.0	4	+ 3	+ 2	8054	9.4	77.0	01.7	2	- 6	0
7935	9.5	77.5	98.9	2	- 4	+ 3	7995	9.4	81.5	00.4	3	- 1	+ 4	8055	9.4	74.8	01.1	4	- 1	- 4
7936	9.0	85.5	97.4	3	- 1	0	7996	9.0	85.6	02.7	4	+ 1	- 2	8056	8.6	77.7	02.1	2	+ 2	0
7937	7.7	81.5	99.4	2	+ 5	- 1	7997	8.7	78.3	02.7	4	+ 4	0	8057	9.2	85.2	04.9	2	- 4	+ 3
7938	9.1	84.5	98.8	3	- 4	- 2	7998	9.2	81.8	02.7	4	0	0	8058	8.5	79.2	01.1	4	+ 1	+ 1
7939	8.9	78.9	97.4	3	+ 4	- 2	7999	8.2	77.0	02.2	3	- 2	- 1	8059	9.0	83.4	01.1	4	- 1	+ 2
7940	7.2	73.5	98.8	3	+ 2	- 2	8000	8.6	77.5	99.8	3	+ 5	+ 1	8060	9.5	80.5	00.5	2	- 4	- 3
7941†	9.4	83.2	98.8	3	-10	+ 3	8001	8.1	77.9	02.7	4	+ 3	+ 2	8061	9.1	83.8	00.5	2	+ 2	0
7942	8.2	82.0	97.4	3	- 2	+ 3	8002	7.8	82.8	00.4	3	+ 4	- 3	8062	9.2	86.7	00.5	2	+ 1	0
7943	9.1	82.9	97.4	3	- 2	0	8003	8.8	76.5	02.2	3	+ 1	0	8063	8.3	81.7	02.9	5	+ 3	+ 5
7944†	9.4	76.5	98.5	3	-49	- 6	8004	8.7	76.5	02.2	3	+ 3	+ 1	8064	9.0	85.0	02.1	2	+ 2	- 4
7945	8.0	80.3	97.4	3	+ 6	- 2	8005	9.0	87.6	02.2	3	+ 1	- 3	8065†	8.9	82.5	04.9	2	+16	+ 2
7946	8.5	77.9	00.9	5	+ 6	+ 4	8006†	9.5	79.1	00.5	2	-14	- 2	8066	8.7	84.0	02.1	2	+ 5	- 1
7947	9.0	79.0	97.4	3	- 3	+ 6	8007	8.7	86.5	02.2	3	- 1	- 2	8067	8.8	76.5	01.1	4	- 3	+ 2
7948	8.5	92.5	00.4	3	- 2	- 3	8008	9.0	90.0	02.2	3	- 2	+ 1	8068	9.0	80.2	01.7	2	- 1	+ 4
7949	9.1	81.0	00.1	3	+ 2	0	8009	8.8	86.0	99.5	2	+ 1	0	8069	8.9	84.5	01.7	2	- 2	+ 2
7950	6.6	87.0	00.5	2	+ 5	- 1	8010	9.0	75.8	02.7	4	+ 3	0	8070	8.7	82.5	01.7	2	- 4	- 3
7951	9.1	89.0	99.1	3	- 6	+ 2	8011	9.1	87.5	00.5	2	- 3	0	8071	8.3	75.1	02.2	3	+ 2	+ 7
7952	9.0	81.0	00.1	3	- 2	- 3	8012	9.1	85.5	99.0	2	+ 1	0	8072	7.9	87.5	02.4	3	+ 5	- 2
7953	9.0	91.5	97.4	2	+ 2	0	8013	8.6	85.9	02.2	3	+ 2	+ 1	8073	8.1	82.6	00.9	3	+ 6	+ 4
7954	9.3	78.8	00.5	2	- 8	+ 2	8014	9.5	88.5	02.2	3	- 2	+ 5	8074	9.0	78.2	98.5	2	- 4	+ 2
7955	8.4	83.0	00.4	3	+ 1	- 4	8015	9.2	73.5	00.5	2	+ 2	- 3	8075	9.0	82.0	01.7	2	+ 5	- 1
7956†	7.5	77.5	00.4	3	+ 4	0	8016	8.5	75.3	00.2	3	+ 2	0	8076	9.1	85.5	02.1	2	+ 1	+ 1
7957	9.5	73.5	98.9	2	- 1	+ 1	8017	8.9	79.5	00.5	2	+ 2	+ 1	8077	8.6	85.0	98.5	2	+ 3	+ 1
7958	9.4	72.5	99.4	2	- 4	+ 2	8018	9.0	75.0	99.0	2	- 2	0	8078†	8.7	81.5	01.7	2	+ 6	+ 6
7959†	6.0	82.0	00.4	3	+ 4	+ 5	8019†	9.4	79.0	02.2	3	-12	- 2	8079	8.5	81.2	98.5	2	0	- 1
7960	9.2	78.8	99.4	2	0	0	8020†	9.5	73.4	02.7	4	- 2	-12	8080†	9.3	81.5	01.6	3	-20	+ 1
7961	9.2	83.8	00.4	3	- 4	0	8021†	9.5	93.5	00.5	2	+13	+ 4	8081	9.0	87.5	98.5	2	+ 1	0
7962	9.4	85.5	98.9	2	+ 4	0	8022	8.7	79.4	02.7	4	+ 1	- 2	8082	8.7	86.6	98.5	2	- 2	- 2
7963†	9.2	85.5	00.4	3	- 8	+14	8023	9.4	74.5	02.7	4	- 3	+ 8	8083	8.9	84.6	01.6	3	+ 2	- 4
7964	7.5	82.9	99.4	2	+ 2	+ 2	8024	9.4	85.6	03.4	4	+ 5	0	8084	8.5	72.5	02.2	3	- 3	- 3
7965	8.7	76.2	98.5	2	- 2	0	8025	8.7	77.5	01.5	4	+ 3	0	8085	6.8	85.0	98.5	2	+ 2	- 1
7966	8.6	80.8	00.4	3	+ 1	- 3	8026	8.0	79.5	99.0	2	- 1	+ 1	8086	8.4	90.0	01.6	3	+ 1	- 2
7967	9.4	75.5	98.5	2	+ 2	- 5	8027	9.0	89.0	99.0	2	0	0	8087†	3.0	Fund.	02.4	3	+ 2	-11
7968	9.0	78.3	00.5	2	0	+ 2	8028	9.4	77.5	99.4	2	- 7	- 2	8088	9.4	93.5	98.5	2	+ 4	+ 2
7969†	8.5	84.6	00.4	3	0	- 7	8029	8.0	78.7	00.2	3	- 1	+ 2	8089	9.3	81.5	97.0	3	+ 2	+ 5
7970	8.6	85.2	00.4	3	+ 2	0	8030	9.3	78.2	03.4	6	- 3	- 1	8090	9.3	77.5	02.1	2	- 4	- 2
7971	8.4	88.9	99.4	2	0	+ 2	8031	7.7	74.8	00.2	3	- 1	+ 1	8091	9.1	93.5	01.6	2	+ 5	+ 1
7972	9.2	86.9	02.5	2	- 5	- 2	8032	8.0	77.5	99.4	2	+ 2	+ 2	8092	9.2	93.0	02.2	5	- 2	0
7973	8.7	78.2	00.4	3	+ 1	+ 1	8033†	9.5	85.9	03.4	4	- 6	- 2	8093	9.0	84.1	02.2	5	+ 1	+ 5
7974	9.4	83.5	98.5	2	+ 4	- 2	8034	9.0	81.5	01.5	4	+ 4	- 4	8094	8.5	75.8	02.1	2	+ 1	0
7975	9.4	73.5	99.1	3	- 3	+ 3	8035	7.0	80.5	99.0	2	+ 3	- 7	8095†	9.4	87.0	02.2	5	-13	- 5
7976	7.7	77.8	99.4	2	+ 2	+ 2	8036	9.0	81.7	99.0	2	0	0	8096	9.0	85.0	02.2	5	+ 6	0
7977†	9.4	93.4	99.4	2	+10	0	8037	9.0	79.5	99.0	2	- 2	+ 4	8097	9.4	78.0	97.5	3	+ 2	0
7978	9.3	86.0	99.4	2	- 5	- 1	8038	8.8	80.6	99.4	2	+ 3	+ 1	8098	6.8	80.5	98.8	3	+ 3	- 6
7979	8.6	79.3	99.1	3	+ 5	- 1	8039	8.8	80.5	00.5	2	+ 2	+ 2	8099	9.2	83.2	97.5	3	- 5	- 1
7980	9.2	85.5	00.5	2	- 3	- 2	8040	9.2	74.2	04.2	4	+ 5	- 1	8100	9.0	83.0	02.2	5	- 2	- 1



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
8101†	9.5	78.5	98.8	3	-13	+2	8161	8.9	81.1	00.5	3	+2	+1	8221	9.3	85.5	00.8	4	-4	+2
8102	9.5	86.0	01.6	2	-2	+2	8162	9.0	74.5	99.2	4	0	-1	8222	9.0	84.2	01.7	4	+4	+3
8103	8.9	76.9	98.8	3	+5	+4	8163	8.6	76.3	96.5	2	+1	-4	8223	8.1	82.0	98.2	3	+4	-7
8104†	8.7	76.5	97.5	3	-4	0	8164	8.5	82.8	96.5	2	+2	0	8224	9.3	87.5	00.8	4	-5	0
8105	8.6	83.0	01.6	2	0	+3	8165†	7.8	81.1	00.5	3	+8	-11	8225	8.5	83.9	98.6	2	+2	-3
8106	9.0	76.2	02.1	2	+2	-2	8166	9.1	76.5	96.5	2	-2	0	8226	9.5	73.5	01.5	4	+1	+1
8107†	9.3	77.5	02.1	2	-46	+2	8167	7.8	80.0	99.7	4	-2	+1	8227	9.1	77.3	00.6	2	-3	+1
8108	9.3	78.8	96.5	2	-7	-3	8168	9.2	81.0	00.5	3	-1	0	8228	9.4	75.2	98.6	2	0	+4
8109	8.0	78.9	96.5	2	+4	+3	8169	8.3	75.9	00.5	3	+2	0	8229	8.8	76.9	01.5	3	0	-1
8110	8.5	87.5	96.5	2	-3	0	8170	8.8	76.5	01.5	3	+2	+2	8230	7.9	81.0	00.8	4	+2	+2
8111	9.2	81.8	98.2	3	+2	-2	8171	9.3	87.0	00.5	3	-8	+1	8231	8.4	76.9	01.2	3	+2	+1
8112	9.1	85.0	99.5	3	+5	0	8172	9.1	75.2	99.5	4	+4	-2	8232	9.5	73.5	98.6	2	+3	0
8113	7.5	78.0	99.2	4	+9	+3	8173	9.0	75.0	99.5	4	-1	+1	8233	9.0	83.9	01.5	3	-2	+2
8114†	9.0	76.0	00.5	3	-9	-8	8174	9.0	76.0	01.2	4	+3	-1	8234	8.8	76.5	98.6	2	0	-2
8115	8.5	77.1	00.5	2	-4	+1	8175	9.0	78.2	01.7	4	-1	-1	8235	8.9	87.5	99.5	1	0	-1
8116	9.2	83.0	01.6	2	-3	+1	8176	9.4	80.5	01.2	4	-4	0	8236†	9.0	83.1	01.5	3	-13	-17
8117	7.0	80.1	01.9	3	+2	0	8177	9.5	73.5	00.2	4	+5	0	8237	9.2	77.5	01.2	3	-9	-1
8118†	8.0	84.3	02.1	2	0	+13	8178	8.9	79.3	01.5	4	-3	-3	8238	8.3	82.6	00.6	2	+6	-1
8119	9.4	82.5	00.5	3	+2	0	8179	9.3	80.0	01.5	4	-3	+2	8239	9.1	76.3	00.6	2	+2	+4
8120	8.0	84.5	01.6	2	0	-1	8180	9.4	83.9	00.2	4	-5	0	8240	8.7	78.7	98.6	2	+1	-2
8121	9.2	83.6	01.6	2	-8	0	8181	9.4	80.3	01.5	3	-2	0	8241	9.0	80.0	01.5	3	+2	0
8122	9.0	83.5	98.2	3	-2	+3	8182	8.5	77.9	98.6	2	0	+2	8242	9.5	86.2	98.6	2	-7	0
8123	9.1	82.9	00.5	3	+2	-3	8183	9.0	80.1	98.6	2	-2	-1	8243	9.1	80.9	01.2	3	+3	0
8124†	9.5	93.5	00.5	3	-1	+3	8184	8.4	79.3	00.6	2	-1	+1	8244	7.9	79.5	01.5	3	+3	0
8125	7.6	82.5	01.9	3	-2	-2	8185	8.5	80.0	01.2	3	+2	+1	8245	9.0	76.2	98.9	3	+1	-1
8126	9.0	79.2	98.5	2	-3	0	8186	8.8	80.3	98.6	2	+4	0	8246	9.1	75.7	00.6	2	0	-4
8127	8.0	80.5	98.2	3	+3	-1	8187	9.2	84.0	00.6	2	-4	0	8247†	5.0	75.2	98.6	2	+7	-1
8128†	7.2	75.5	00.5	3	+5	+4	8188	8.2	79.8	01.2	3	+4	0	8248	9.1	85.3	99.5	1	0	-3
8129	8.2	82.8	01.3	4	0	0	8189	7.6	79.4	00.6	2	+8	-3	8249	9.2	82.5	98.6	2	-6	+6
8130	9.5	85.0	01.4	4	-2	-2	8190	9.4	74.5	98.5	2	-9	+2	8250	9.3	86.2	99.6	1	-7	-3
8131	9.1	86.3	98.2	3	+2	+1	8191	6.5	81.9	99.6	3	+5	+4	8251	9.2	80.5	01.5	3	+4	+2
8132†	5.8	81.3	01.3	4	+4	+2	8192	8.8	78.8	98.6	2	+2	0	8252	8.4	81.9	01.2	3	+4	-2
8133	8.8	80.9	01.3	4	-3	+3	8193	8.8	78.2	01.5	3	+2	0	8253	9.0	74.8	98.2	3	-5	0
8134	9.1	82.1	01.1	3	0	-2	8194†	7.2	81.0	01.5	3	+3	-2	8254†	9.4	93.5	99.5	2	+16	+9
8135	7.1	77.0	98.5	2	+4	-2	8195	8.8	77.2	01.2	3	-1	-3	8255	9.4	89.0	98.9	3	+4	+3
8136	7.1	81.9	01.1	3	+2	-1	8196	7.7	79.1	00.6	2	+3	+2	8256	8.6	75.8	01.5	3	+3	0
8137	9.4	75.8	98.9	5	0	0	8197	9.0	78.8	01.2	3	-2	+2	8257	9.1	86.0	99.5	2	-6	-3
8138	9.5	73.5	98.9	5	-3	+3	8198	9.0	77.9	98.6	2	0	+2	8258	9.1	78.4	99.6	3	-1	0
8139	9.5	79.2	99.8	4	-3	+1	8199	9.0	77.6	98.6	2	+2	-3	8259	9.1	75.5	99.6	3	-6	0
8140	9.0	78.8	01.9	2	-3	+2	8200	9.5	77.5	98.2	3	+5	-2	8260	5.7	79.0	01.2	3	+1	+1
8141	8.7	76.8	01.5	3	+3	-2	8201†	9.5	79.0	99.1	4	-12	+2	8261†	9.2	86.1	98.9	3	-15	-1
8142	9.0	79.8	01.5	3	0	-1	8202	9.3	83.5	98.2	3	-3	-1	8262	9.3	81.6	01.5	4	+6	-3
8143	8.9	82.8	99.8	4	+2	-2	8203	8.3	78.9	01.1	5	+2	-3	8263	9.4	93.0	98.9	3	0	-7
8144	8.6	78.8	01.5	3	+1	-1	8204	8.7	79.9	01.3	5	+2	+1	8264	7.0	77.9	98.2	3	+5	+2
8145†	6.0	80.5	99.8	4	+7	+1	8205	9.1	78.5	98.2	3	+2	0	8265	8.2	80.5	98.2	3	+2	+2
8146	9.0	82.8	96.9	3	0	-2	8206	9.1	86.6	98.2	3	0	0	8266	8.8	82.1	98.2	3	+4	-1
8147	8.8	79.3	96.9	3	+4	0	8207†	7.9	80.9	98.2	3	-3	+14	8267	8.3	81.0	01.2	4	+5	0
8148	8.7	74.2	98.5	2	+3	-5	8208†	8.4	76.8	00.6	2	+1	+30	8268	9.4	90.5	01.2	4	-6	-1
8149	9.5	82.0	98.5	2	-6	+2	8209	9.4	74.5	01.1	5	-2	+6	8269	9.3	75.1	00.2	3	-3	+2
8150	9.3	84.9	01.9	2	-3	-2	8210	9.2	90.5	98.2	3	-7	-2	8270	9.0	74.8	97.6	2	+1	-5
8151	8.6	77.2	00.5	3	0	+1	8211	9.4	81.2	93.8	3	-7	-2	8271	9.2	85.5	01.9	5	-1	+3
8152†	8.1	75.2	99.2	4	+4	+6	8212	8.3	75.9	00.6	2	+1	+4	8272	8.4	75.5	01.1	3	0	-2
8153†	9.0	75.5	96.9	3	-10	+2	8213	9.0	80.7	01.2	3	+3	-2	8273	9.2	79.7	01.1	3	+3	-3
8154	9.4	83.5	01.9	2	-8	0	8214	9.0	74.8	01.5	3	+5	+2	8274	9.5	86.3	98.2	3	-5	+2
8155	8.9	77.2	96.5	2	+4	-1	8215	9.4	82.5	01.5	3	-5	+3	8275	9.3	88.5	98.6	2	-9	+2
8156	6.6	76.0	01.5	3	+1	0	8216	9.0	83.2	01.5	3	-1	-3	8276	9.1	77.7	98.6	2	+2	-3
8157	9.2	85.5	00.5	3	-4	0	8217	8.9	75.5	98.2	3	+1	0	8277	9.2	85.6	98.6	2	+3	-3
8158	8.8	76.5	98.5	2	-6	0	8218	8.7	82.0	01.2	3	-2	+1	8278	9.4	77.5	01.5	3	+5	-8
8159	9.4	76.2	01.5	3	+3	-1	8219	8.8	85.0	01.7	4	+2	+3	8279	9.1	81.0	01.1	3	0	-1
8160	9.4	78.9	01.7	4	-4	+1	8220	9.2	86.0	01.7	4	-2	0	8280	9.1	76.5	01.5	3	0	+2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
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8281	9.5	73.5	99.6	2	- 1	+ 2	8341	9.4	76.2	97.6	3	- 4	+ 3	8401	9.4	85.6	97.5	3	- 2	+ 2
8282	9.5	93.5	98.2	3	+ 8	+ 2	8342	9.2	85.2	99.6	4	- 1	+ 3	8402	8.8	80.1	99.6	2	+ 3	- 2
8283	8.2	75.2	97.6	2	0	- 2	8343	9.0	74.5	98.9	3	- 2	+ 3	8403	8.7	85.5	00.2	3	+ 4	- 3
8284	9.4	76.2	97.6	2	- 3	- 3	8344	8.7	80.3	98.9	3	- 1	- 3	8404†	9.4	93.6	99.6	2	- 12	- 2
8285	8.2	81.0	98.6	2	+ 6	+ 5	8345	9.3	79.5	98.9	3	+ 1	- 2	8405	9.0	84.6	98.5	2	0	+ 1
8286	8.2	80.6	01.5	4	+ 4	0	8346	9.0	79.6	02.0	2	+ 4	0	8406	9.1	84.1	99.5	1	+ 6	- 1
8287	8.0	93.0	01.5	3	- 3	- 1	8347	9.5	93.5	98.9	3	+ 2	+ 2	8407	9.0	85.0	98.9	3	+ 5	- 1
8288	9.3	85.5	99.5	1	- 4	- 4	8348	8.9	79.2	02.0	2	+ 2	+ 6	8408	8.9	83.9	99.6	2	0	- 3
8289	9.0	74.9	99.6	2	+ 2	- 1	8349	8.7	79.9	98.9	3	+ 2	- 2	8409	8.9	93.5	01.3	4	+ 1	0
8290†	9.4	89.5	01.5	3	- 17	+ 1	8350†	7.5	77.2	02.0	2	+ 3	- 3	8410	9.4	93.6	01.5	4	- 4	+ 4
8291	8.1	79.6	01.5	3	+ 1	0	8351	9.0	75.9	01.5	2	0	+ 1	8411†	9.5	93.6	01.5	4	- 15	+ 1
8292	9.4	82.9	01.5	3	- 1	- 1	8352	8.7	80.8	98.9	3	0	- 3	8412	8.3	81.6	01.3	4	+ 2	0
8293	7.8	78.5	01.1	3	+ 1	0	8353	9.5	74.5	98.9	3	- 4	+ 7	8413	8.8	83.1	01.3	4	+ 2	+ 1
8294	9.0	75.2	97.6	2	- 1	0	8354	9.4	81.0	98.9	3	- 7	- 4	8414	8.5	88.0	01.2	3	- 4	0
8295	8.8	78.5	00.3	4	+ 1	+ 1	8355	9.4	74.5	01.5	2	- 1	- 4	8415	8.9	81.0	98.5	2	+ 5	+ 2
8296	9.2	74.5	98.6	2	- 6	+ 4	8356	9.5	75.5	97.6	3	0	- 4	8416	9.0	81.0	99.6	2	+ 2	+ 1
8297	9.4	77.5	01.5	3	- 3	- 1	8357	9.0	75.0	98.2	3	+ 2	- 1	8417	8.9	82.6	01.2	3	- 1	+ 1
8298	9.1	79.1	98.6	2	+ 1	0	8358	8.2	75.9	02.0	2	+ 3	0	8418	9.0	87.8	97.6	2	0	+ 1
8299	9.1	81.9	97.6	2	+ 4	0	8359	9.0	78.9	98.5	2	0	- 2	8419†	3.3	Fund.	99.6	2	- 22	- 61
8300	8.8	78.9	98.6	2	+ 1	- 2	8360	9.4	81.6	97.6	2	0	- 2	8420	8.9	90.0	99.5	1	- 2	+ 1
8301	9.4	82.9	02.5	2	- 6	+ 2	8361	9.2	83.3	02.2	3	- 7	+ 3	8421	9.0	88.5	98.5	2	- 6	- 2
8302	9.3	93.5	03.8	3	+ 1	+ 7	8362	9.2	89.5	02.2	3	+ 1	0	8422	7.0	87.5	98.5	2	+ 2	- 2
8303	9.0	75.2	98.1	4	- 1	+ 2	8363	9.1	79.9	97.6	2	+ 3	+ 3	8423	8.9	84.9	97.6	2	+ 2	+ 2
8304	9.0	76.2	99.6	2	+ 4	0	8364	9.0	75.5	00.2	3	+ 1	+ 3	8424	8.7	77.9	00.3	4	- 1	+ 2
8305	9.5	76.5	99.6	2	+ 1	0	8365†	9.0	93.5	99.6	4	+ 11	0	8425	8.0	86.6	01.2	3	+ 3	+ 1
8306	9.1	81.9	98.2	3	0	- 2	8366	8.8	79.9	00.2	3	- 3	+ 2	8426	8.2	80.0	01.5	3	+ 2	+ 1
8307	6.3	75.9	01.3	4	+ 1	+ 2	8367	8.0	75.3	01.5	3	+ 1	- 1	8427	9.0	87.6	01.5	3	+ 1	- 4
8308	9.3	86.2	01.5	4	+ 1	+ 1	8368	9.2	82.2	97.5	2	0	0	8428	9.1	87.6	98.5	2	- 1	+ 3
8309	7.5	85.8	98.2	3	+ 3	- 3	8369	9.2	82.2	02.0	2	- 1	- 2	8429†	9.5	94.5	99.1	3	+ 11	- 11
8310	9.0	83.5	98.2	3	- 5	- 1	8370	9.4	84.1	99.6	4	- 3	0	8430	9.0	82.9	01.5	3	+ 5	+ 2
8311	7.0	81.1	99.6	2	+ 7	- 7	8371	9.2	83.5	02.0	2	+ 3	- 2	8431	7.5	90.0	01.2	3	- 2	0
8312	9.1	74.2	99.6	2	- 1	+ 4	8372	8.1	81.2	02.0	2	+ 2	- 3	8432	9.5	93.5	01.6	4	+ 9	- 1
8313	8.9	78.6	01.5	4	0	+ 3	8373	8.3	84.0	98.5	2	- 2	0	8433	9.5	77.5	01.5	3	- 3	- 1
8314	9.1	76.0	99.6	2	0	+ 5	8374	7.0	75.3	99.6	2	+ 6	+ 2	8434	8.7	90.6	04.9	2	- 2	0
8315	9.2	79.2	97.6	3	- 4	+ 3	8375	9.3	79.0	99.6	2	- 6	+ 4	8435†	9.1	88.0	01.6	4	- 10	- 8
8316	8.7	78.6	97.6	3	- 2	+ 2	8376	9.0	75.1	98.2	3	+ 2	0	8436	8.9	82.6	02.5	3	- 6	- 1
8317	9.0	79.9	98.8	3	+ 2	- 2	8377	7.8	83.3	98.5	2	+ 5	+ 2	8437†	9.1	81.5	01.2	3	+ 10	- 7
8318	9.2	83.2	97.5	2	+ 3	0	8378	9.3	80.5	99.6	2	+ 1	0	8438	9.0	84.0	00.8	5	- 4	+ 6
8319	9.0	75.9	99.6	2	+ 3	+ 2	8379	9.2	85.9	02.0	2	+ 2	- 2	8439	8.2	81.9	01.2	3	+ 6	- 2
8320	8.5	76.9	02.2	3	+ 4	+ 2	8380	7.9	80.1	97.6	2	+ 6	+ 1	8440	8.7	85.6	01.5	3	+ 3	+ 1
8321†	9.2	80.5	99.6	2	- 6	+ 19	8381	9.3	82.0	98.5	2	- 2	0	8441	9.5	76.5	01.2	3	- 9	+ 2
8322	9.4	85.2	02.0	2	- 2	0	8382	9.2	84.5	99.6	2	- 1	- 2	8442	8.5	79.2	01.2	3	+ 1	0
8323	9.2	79.6	98.5	2	0	+ 5	8383	6.5	82.2	02.0	2	- 1	0	8443	9.3	93.6	01.2	3	- 5	0
8324	9.3	78.6	98.5	2	- 5	+ 5	8384	9.2	83.9	97.6	2	+ 1	+ 2	8444	9.1	84.5	00.1	4	- 6	- 2
8325	9.5	92.5	98.5	2	- 2	+ 3	8385	9.2	79.8	97.6	2	0	- 3	8445	9.1	90.5	02.5	3	+ 1	+ 2
8326	9.5	88.6	99.6	2	- 3	- 3	8386	9.3	86.6	97.6	2	- 5	- 3	8446	9.0	90.5	01.5	3	- 6	+ 1
8327	9.3	85.2	02.5	2	- 7	- 1	8387	8.2	93.5	99.5	1	- 3	- 3	8447	8.5	76.3	01.6	4	+ 2	+ 1
8328	9.1	81.6	02.0	2	0	- 3	8388	9.1	84.9	02.0	2	- 5	+ 1	8448	9.5	87.5	00.3	4	0	- 4
8329	8.2	81.1	98.5	2	- 2	- 4	8389	9.2	77.2	99.6	2	- 2	- 2	8449	9.3	93.6	00.3	4	- 4	+ 9
8330	9.0	74.8	99.6	2	0	- 2	8390	7.8	79.2	02.0	2	+ 6	- 4	8450	8.9	76.1	01.5	3	- 2	- 3
8331	8.5	81.1	97.6	2	+ 4	0	8391	9.4	78.1	02.0	2	- 1	+ 4	8451†	5.7	79.9	00.3	4	+ 2	- 3
8332	9.0	80.3	98.5	2	+ 2	- 4	8392	8.0	79.5	98.6	4	+ 5	0	8452	9.0	80.3	01.5	3	+ 2	- 2
8333	8.9	76.9	01.8	3	+ 4	- 5	8393	9.0	76.0	01.5	2	+ 4	0	8453	9.2	84.6	02.0	2	- 2	- 4
8334	9.4	74.5	98.5	2	+ 2	0	8394	9.0	82.1	02.0	2	0	- 2	8454	8.9	74.6	01.5	3	+ 4	- 2
8335	9.1	74.9	99.6	2	+ 2	0	8395	9.0	78.0	01.7	3	- 1	+ 2	8455†	9.3	88.1	02.0	2	- 2	+ 3
8336	7.5	79.9	99.6	2	+ 4	- 6	8396	9.2	81.5	99.6	2	- 2	0	8456†	9.4	88.1	02.0	2	- 14	+ 2
8337†	9.2	77.5	01.5	2	- 13	- 4	8397	9.4	93.5	99.6	2	- 7	- 7	8457	9.2	81.6	00.5	3	+ 5	+ 4
8338	8.2	75.3	97.6	2	+ 4	- 8	8398	9.3	85.5	97.5	3	- 7	+ 2	8458	8.6	80.9	00.9	3	+ 1	0
8339	8.5	81.8	98.5	2	0	- 2	8399	8.7	82.3	98.2	3	- 1	- 1	8459	9.0	85.5	01.3	4	+ 2	0
8340	9.3	83.0	98.9	3	- 2	+ 4	8400	9.0	85.2	02.0	2	- 6	- 5	8460†	7.0	76.6	00.5	3	+ 7	- 2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
8461	8.9	80.1	00.5	3	- 4	+ 3	8521	9.0	80.8	01.3	5	0	+ 2	8581	9.2	85.1	01.3	4	+ 3	- 4
8462	9.3	82.2	03.3	4	- 1	+ 2	8522†	9.5	72.5	01.1	5	- 11	+ 5	8582	9.0	86.2	96.1	2	- 4	- 3
8463	9.0	75.6	01.7	4	0	- 2	8523	7.8	78.9	02.3	3	+ 1	- 2	8583†	8.9	79.6	01.3	4	+ 1	- 5
8464	8.3	75.5	01.3	4	0	- 5	8524	9.1	80.5	01.3	5	- 9	+ 3	8584	8.7	82.3	01.3	4	- 3	0
8465†	9.5	83.2	01.7	4	- 11	0	8525	8.6	82.1	00.5	3	+ 2	0	8585	8.9	81.6	96.7	4	0	+ 1
8466†	6.0	77.6	01.7	4	+ 9	+ 6	8526	8.6	83.3	00.5	3	+ 2	+ 2	8586	7.5	77.7	01.2	3	+ 3	0
8467	8.4	75.0	01.7	6	0	0	8527	9.0	76.9	00.5	5	+ 2	- 3	8587	9.0	83.6	95.8	3	+ 2	0
8468	9.0	81.8	00.9	3	+ 6	0	8528	9.2	81.6	00.9	3	0	- 2	8588	8.9	79.2	00.9	3	0	0
8469	9.3	80.6	01.7	4	- 2	+ 1	8529	8.9	85.6	00.5	3	+ 2	0	8589	9.2	87.0	99.4	1	- 7	- 4
8470	9.4	87.5	00.9	3	- 8	+ 6	8530	8.0	80.0	00.2	4	+ 6	- 2	8590	8.8	75.9	97.1	3	- 3	+ 1
8471	9.5	93.5	01.2	3	+ 4	+ 5	8531†	5.7	86.3	01.3	6	+ 8	+ 1	8591	9.0	78.0	99.7	4	+ 4	0
8472	9.0	75.6	02.3	3	+ 2	+ 2	8532	9.2	85.9	00.2	4	- 4	- 2	8592†	7.5	76.3	00.9	3	- 4	+ 15
8473	9.3	88.6	01.5	3	- 8	+ 3	8533	9.0	84.1	00.2	4	- 1	- 3	8593	9.1	84.1	96.4	3	0	+ 1
8474	8.3	93.2	02.5	2	0	- 2	8534	7.8	84.6	00.2	4	+ 3	- 3	8594	8.2	76.3	95.0	2	+ 3	0
8475	9.0	82.0	00.9	3	- 1	- 1	8535	9.1	86.0	00.2	4	- 7	- 1	8595	9.0	74.6	95.0	2	+ 2	+ 1
8476	8.7	80.8	02.3	3	+ 3	- 2	8536	8.5	81.6	00.2	3	+ 6	+ 2	8596	8.4	77.6	95.0	2	- 1	+ 2
8477	7.2	75.9	01.7	4	0	+ 2	8537†	9.1	87.6	00.2	4	- 14	+ 2	8597	9.1	75.6	00.9	3	- 1	0
8478	8.1	77.1	02.3	3	- 1	0	8538	8.4	84.6	00.2	4	+ 3	0	8598	8.6	75.2	01.2	3	- 3	0
8479	9.2	87.6	01.5	3	0	- 1	8539	8.6	85.6	00.2	3	- 5	+ 1	8599	8.8	75.9	98.5	2	+ 2	- 2
8480	8.2	83.6	02.5	2	- 3	- 4	8540	9.0	74.9	00.2	3	+ 2	- 4	8600	9.2	83.9	99.4	1	0	0
8481	9.0	78.3	01.2	3	+ 6	+ 1	8541	9.5	91.8	00.2	4	0	+ 3	8601†	9.2	76.1	98.5	2	+ 10	+ 3
8482	8.9	89.5	99.8	4	- 4	0	8542	8.7	84.1	00.2	3	0	0	8602	9.0	75.6	98.5	2	- 3	- 3
8483†	8.5	79.4	01.2	3	0	+ 1	8543	9.3	74.5	00.2	4	- 1	+ 1	8603	8.0	84.9	96.9	2	+ 2	0
8484	9.2	86.9	00.1	4	+ 1	- 1	8544	9.0	89.0	00.2	4	+ 4	0	8604	7.2	77.9	96.9	2	+ 4	- 1
8485	8.3	79.6	00.1	4	+ 2	0	8545	9.0	84.1	98.5	2	+ 4	- 2	8605	9.0	80.4	98.5	2	- 3	0
8486	7.9	79.6	00.1	4	+ 5	- 2	8546	8.5	84.2	98.5	2	+ 2	- 2	8606	9.0	82.9	95.0	2	- 8	- 4
8487	9.2	90.2	00.1	4	+ 1	0	8547	9.3	87.5	96.5	2	- 2	0	8607	9.2	74.9	01.2	3	- 5	+ 4
8488	9.0	91.6	01.5	3	- 7	+ 4	8548†	9.1	93.5	01.5	3	+ 2	- 1	8608	9.0	81.3	94.9	2	- 1	+ 5
8489	8.8	80.0	02.3	3	+ 4	0	8549	9.0	89.1	01.5	3	- 6	+ 4	8609	9.0	82.1	96.9	2	+ 1	0
8490	8.9	78.5	00.1	4	- 2	- 1	8550	9.2	85.9	00.2	3	- 1	+ 2	8610	8.8	87.0	96.9	2	- 3	+ 3
8491	9.2	78.2	02.5	2	0	+ 3	8551†	9.2	84.1	01.5	3	+ 41	- 2	8611	9.0	74.6	98.5	2	- 3	- 4
8492	7.8	75.9	99.8	4	0	- 1	8552	9.5	93.5	01.2	3	+ 7	+ 2	8612	9.1	76.6	00.9	3	- 1	+ 2
8493	9.1	81.2	02.0	2	- 3	- 5	8553	9.0	93.5	01.5	3	+ 7	- 4	8613	9.1	76.9	00.9	3	0	+ 1
8494	8.4	77.6	00.4	5	- 1	- 2	8554	9.0	85.6	98.5	2	+ 2	+ 1	8614	8.8	82.3	96.9	2	- 4	- 2
8495	9.0	83.9	00.1	4	0	0	8555	9.2	84.6	96.5	2	- 2	+ 1	8615	9.0	80.6	96.9	2	+ 1	0
8496	8.5	80.6	99.8	4	0	+ 2	8556	8.4	86.1	96.5	2	0	0	8616	9.1	79.3	98.5	2	+ 2	- 2
8497	8.9	77.6	00.1	4	- 4	- 4	8557	9.2	83.0	98.5	2	- 4	0	8617	8.3	87.0	96.9	2	+ 2	- 4
8498	7.7	77.9	02.3	3	+ 5	- 1	8558	9.2	86.9	96.5	2	- 2	- 1	8618†	7.3	76.3	94.9	2	+ 28	- 35
8499	8.2	76.3	02.3	3	- 3	+ 6	8559	8.5	95.5	99.7	4	- 2	- 3	8619	9.4	85.6	94.9	2	- 8	+ 2
8500	9.4	75.0	01.2	3	- 2	+ 1	8560	9.2	95.5	97.5	3	- 3	0	8620	9.1	81.0	00.9	3	- 3	+ 1
8501	8.9	81.6	01.5	3	0	- 2	8561	8.7	80.3	01.5	3	- 5	- 1	8621	9.1	84.6	01.3	4	- 7	- 5
8502	8.9	82.6	02.3	3	- 2	+ 3	8562	9.1	76.5	98.5	2	+ 6	+ 3	8622	9.3	77.8	00.9	3	+ 3	- 3
8503	9.3	76.3	02.5	2	0	+ 2	8563	8.3	79.3	98.5	2	+ 5	+ 8	8623†	8.9	74.6	01.2	3	+ 2	+ 1
8504	9.0	81.6	00.9	3	0	+ 1	8564	8.3	83.6	01.2	3	+ 5	- 1	8624	8.5	81.6	94.9	2	0	- 2
8505	8.0	78.3	01.5	3	+ 3	0	8565	8.8	80.6	01.5	3	0	- 1	8625	8.8	81.6	96.9	2	+ 1	- 1
8506	8.0	78.1	00.5	3	- 6	- 3	8566	8.8	85.2	01.5	3	0	- 1	8626	9.5	75.5	01.2	3	- 1	- 1
8507	8.6	78.6	01.2	3	- 2	0	8567†	3.6	Fund.	01.5	3	+ 9	+ 2	8627†	8.3	81.6	96.9	2	0	+ 3
8508	8.8	83.9	01.5	3	+ 2	- 8	8568	8.9	85.1	01.2	3	- 6	+ 1	8628	9.2	84.1	01.2	3	- 2	+ 3
8509	8.8	83.2	02.3	3	- 1	- 1	8569	7.9	84.9	98.5	2	+ 7	- 2	8629	8.4	79.6	96.4	3	+ 5	+ 2
8510	9.4	84.5	01.2	3	- 4	- 5	8570	9.2	83.6	02.5	2	- 5	+ 4	8630	8.7	80.2	95.8	3	+ 1	- 1
8511	9.1	86.2	00.9	3	- 5	- 4	8571	8.4	80.4	99.7	4	+ 1	- 4	8631	9.0	80.6	98.2	3	- 7	- 1
8512	9.0	82.9	03.3	4	+ 4	- 1	8572	8.5	90.6	98.5	2	0	0	8632†	...	...	...	...	...	...
8513	9.3	75.2	02.3	3	- 1	+ 3	8573†	4.5	85.9	02.5	2	+ 1	+ 1	8633	9.2	80.6	98.2	3	- 3	+ 3
8514	8.9	82.2	00.9	3	0	- 2	8574	9.1	82.1	96.5	2	0	0	8634†	9.1	75.6	00.9	5	+ 5	- 8
8515†	9.5	76.1	01.5	3	+ 14	- 1	8575	9.0	75.9	98.5	2	- 8	+ 1							



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
8641	9.3	76.6	99.7	4	- 8	+ 3	8701	9.0	80.6	96.1	2	- 3	+ 2	8761	9.4	78.2	99.1	2	- 8	- 2
8642	8.9	74.4	97.5	3	+ 1	- 2	8702	9.0	75.4	00.8	3	- 1	0	8762	9.0	82.6	98.1	2	- 2	- 2
8643	9.2	87.2	97.5	3	- 6	+ 2	8703	9.5	83.1	96.1	2	- 3	- 2	8763	9.5	79.9	98.8	4	- 7	0
8644	9.0	74.9	01.2	3	0	+ 5	8704	9.1	84.9	00.8	3	- 3	+ 1	8764	9.1	85.4	98.1	2	+ 2	- 1
8645	8.6	79.6	99.3	5	+ 2	- 1	8705	9.5	74.5	95.6	2	+ 2	+ 1	8765	9.0	79.9	98.1	2	+ 3	- 4
8646	9.0	83.4	97.5	3	- 2	- 2	8706	8.2	77.3	00.8	4	+ 2	- 3	8766	9.1	77.9	99.1	2	0	+ 5
8647	9.5	81.2	98.2	3	- 4	+ 3	8707	8.5	77.4	00.0	4	+ 5	0	8767	9.1	84.6	98.1	2	+ 2	0
8648	7.5	79.6	98.2	3	+ 4	0	8708	9.3	85.6	99.1	2	- 2	0	8768	9.1	84.6	97.8	4	- 5	0
8649	9.3	86.9	95.8	3	- 6	0	8709	7.6	75.5	95.6	2	+ 2	+ 1	8769	9.4	84.5	97.8	4	- 4	- 8
8650†	9.3	77.5	00.3	4	- 14	+ 3	8710†	9.4	87.6	00.8	3	- 17	+ 4	8770	9.2	84.6	98.1	2	- 4	+ 2
8651	7.5	75.3	01.0	4	- 1	- 2	8711	8.4	76.6	96.1	2	+ 8	+ 3	8771	9.3	78.0	97.8	5	+ 3	0
8652	9.0	85.6	96.5	2	- 6	- 2	8712	8.3	86.1	00.9	3	+ 2	+ 2	8772	8.0	75.6	99.1	2	+ 3	+ 3
8653	7.7	75.6	99.6	2	+ 4	+ 1	8713	7.2	79.3	99.1	4	+ 4	+ 2	8773	8.3	75.6	97.8	4	+ 5	0
8654	7.8	79.4	01.2	3	+ 5	+ 3	8714	7.7	77.6	00.8	3	+ 1	- 3	8774	9.5	74.6	97.8	5	+ 4	+ 1
8655	8.5	77.6	96.5	2	+ 4	+ 3	8715	7.3	78.1	00.8	3	+ 1	- 4	8775	9.5	77.1	00.7	2	- 6	+ 3
8656	8.2	84.3	96.5	2	+ 2	- 1	8716	7.7	80.1	00.7	2	+ 2	- 2	8776	9.2	85.3	98.1	2	+ 4	+ 1
8657	9.3	73.0	01.2	3	- 5	0	8717	8.5	79.3	99.1	4	- 2	- 1	8777	9.3	76.2	98.1	2	+ 6	+ 1
8658	9.0	78.3	96.1	2	0	- 3	8718	8.9	75.2	00.8	3	0	- 2	8778	8.1	74.1	98.1	2	+ 3	+ 3
8659	8.6	77.1	96.5	2	0	+ 1	8719	9.0	79.2	00.8	3	- 1	+ 2	8779	9.4	77.0	98.1	2	+ 1	+ 4
8660	9.3	78.6	00.7	3	- 4	+ 1	8720	9.0	76.0	98.6	3	+ 1	+ 3	8780	9.4	79.6	98.1	2	- 8	0
8661	9.4	81.3	96.1	2	- 9	+ 2	8721	8.8	77.4	98.6	3	+ 3	0	8781	9.3	74.9	99.1	2	- 2	- 3
8662	8.5	79.0	99.6	2	+ 3	- 2	8722	9.2	80.3	00.8	3	- 2	- 1	8782	9.5	78.5	98.1	2	- 9	0
8663	8.7	79.1	00.7	3	+ 2	- 2	8723	9.2	84.9	00.8	3	- 6	- 3	8783	8.2	75.6	98.5	4	+ 6	- 1
8664	8.5	83.1	01.2	3	+ 5	- 4	8724	9.3	82.6	00.8	3	0	- 4	8784	8.8	85.3	00.7	2	- 5	- 1
8665	9.4	94.5	96.5	2	- 2	+ 1	8725	9.3	75.5	00.8	3	- 2	+ 2	8785	8.7	76.3	95.6	2	- 1	+ 2
8666	9.0	79.9	01.2	3	- 6	- 3	8726	9.1	84.6	99.0	4	- 1	0	8786	9.1	84.3	95.6	2	0	+ 1
8667	9.0	78.0	95.6	3	+ 2	- 1	8727†	8.1	76.9	98.6	3	+ 4	0	8787	9.3	75.6	99.2	3	+ 1	0
8668	9.2	88.6	01.2	3	+ 1	- 3	8728	9.4	77.6	00.8	3	+ 1	- 1	8788	8.7	78.4	99.0	3	0	- 3
8669	7.3	82.3	95.2	3	+ 7	- 1	8729	8.2	75.3	99.5	4	+ 1	- 2	8789	9.3	74.5	99.2	3	0	+ 4
8670	9.4	83.6	95.6	3	+ 7	- 2	8730	9.3	78.3	99.1	4	0	- 1	8790	9.3	74.2	99.2	3	- 3	+ 2
8671	9.2	78.0	99.6	2	- 4	+ 1	8731	9.3	75.6	99.5	4	- 3	+ 1	8791	9.3	87.6	98.8	4	- 7	+ 2
8672†	3.8	Fund.	01.2	3	+ 4	+ 1	8732	8.0	80.4	99.2	3	+ 5	- 1	8792	8.9	76.1	98.8	4	+ 2	- 2
8673	8.9	83.6	01.2	3	0	+ 1	8733	9.2	80.4	98.9	6	- 5	+ 1	8793†	9.5	73.6	99.0	3	- 15	- 1
8674†	6.1	83.3	96.1	4	+ 2	0	8734	8.1	80.8	99.2	3	+ 3	0	8794	9.4	83.1	99.0	3	- 5	- 2
8675†	5.9	84.2	95.2	3	+ 4	+ 3	8735	9.2	75.6	00.7	2	0	+ 1	8795	8.9	74.9	99.9	3	0	- 4
8676	9.2	84.5	01.2	3	- 2	- 6	8736	9.1	79.3	97.9	3	+ 1	0	8796†	9.5	73.6	00.7	2	- 3	0
8677	8.4	79.4	99.6	2	+ 4	+ 2	8737	8.2	83.1	98.1	2	0	+ 5	8797†	9.0	76.0	95.6	2	+ 21	+ 5
8678	9.4	93.2	99.6	2	- 2	+ 2	8738	9.5	73.6	98.1	2	+ 4	+ 2	8798	9.4	81.8	00.7	3	- 3	- 1
8679	9.4	93.5	99.6	2	+ 6	- 7	8739	8.2	90.6	98.1	2	+ 4	+ 4	8799	9.0	76.1	98.1	2	0	+ 3
8680	8.8	92.6	01.2	3	- 2	+ 3	8740	9.0	74.6	95.6	2	+ 1	+ 2	8800	9.0	75.9	98.1	2	+ 4	0
8681	9.0	89.6	95.2	3	0	- 2	8741	9.2	75.3	95.6	2	+ 2	- 2	8801	9.1	74.3	98.5	2	+ 1	- 1
8682	8.0	86.1	95.6	3	+ 2	- 1	8742	7.6	75.6	95.6	2	+ 4	- 2	8802	8.5	83.1	99.2	3	+ 2	0
8683	7.7	79.9	00.9	3	+ 3	- 2	8743	9.3	76.6	95.6	2	- 5	- 7	8803†	9.5	90.6	99.2	3	- 10	+ 2
8684	8.6	78.6	01.2	3	+ 1	+ 2	8744	8.3	79.8	99.2	3	+ 4	+ 2	8804†	9.3	74.5	99.2	3	- 14	- 1
8685	8.2	83.1	00.8	4	+ 6	- 3	8745	9.0	76.1	98.1	2	+ 2	- 5	8805	9.1	84.3	99.6	2	+ 6	+ 2
8686	7.3	79.6	95.6	3	0	+ 1	8746	9.0	79.6	98.1	2	+ 3	0	8806	9.4	79.6	99.6	2	- 6	+ 3
8687	8.0	79.6	98.4	4	- 3	0	8747	9.1	85.9	95.6	2	0	- 2	8807	8.7	75.9	99.2	3	+ 4	- 1
8688	9.1	82.8	96.1	2	0	- 3	8748	9.4	73.9	98.1	2	+ 1	- 2	8808	9.2	82.6	99.2	3	- 1	- 6
8689	9.0	83.3	96.1	2	- 8	- 2	8749	8.1	75.0	95.6	2	+ 7	- 1	8809	8.7	76.1	99.6	2	+ 2	0
8690	9.4	80.1	95.6	2	- 9	0	8750	9.2	84.6	99.0	3	- 5	+ 3	8810	9.5	73.6	98.1	2	- 6	- 6
8691	9.1	82.2	97.3	3	+ 3	0	8751	9.5	74.1	98.1	2	- 1	0	8811†	9.5	73.5	98.5	2	- 10	+ 2
8692	7.2	77.6	00.8	4	+ 4	+ 5	8752	9.0	74.6	99.2	3	+ 2	- 4	8812	8.9	78.2	98.1	2	+ 3	0
8693	8.8	76.9	00.8	4	- 6	0	8753	6.8	76.7	98.1	2	+ 4	- 3	8813	9.5	84.6	01.6	4	- 4	+ 1
8694	9.4	78.6	95.6	2	- 7	+ 2	8754	9.3	80.6	98.1	2	0	0	8814	9.1	84.7	00.0	5	+ 3	- 4
8695	9.2	83.1	00.8	3	+ 5	- 2	8755	9.3	86.3	00.7	2	- 2	+ 5	8815	9.1	85.3	98.5	2	+ 2	0
8696	8.5	75.6	96.1	2	+ 1	- 2	8756	9.3	75.3	99.1	2	- 2	- 1	8816	9.4	75.9	98.9	3	- 7	- 2
8697	9.2	80.3	98.6	1	- 1	- 1	8757	9.0	80.4	99.2	3	- 3	+ 2	8817†	9.1	85.7	98.1	2	0	0
8698	9.3	85.6	00.8	3	+ 1	- 4	8758†	7.0	75.6	98.1	2	+ 10	- 20	8818	8.2	75.1	98.9	3	+ 2	0
8699	9.5	73.6	00.8	3	- 4	+ 8	8759	9.2	79.6	98.1	2	+ 2	+ 6	8819	9.0	73.6	00.0	5	0	- 1
8700†	9.0	75.6	00.8	3	+ 10	+ 9	8760	9.5	75.4	98.8	4	- 5	+ 6	8820	8.9	75.8	98.5	2	- 1	0



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
8821	9.0	77.3	98.9	3	0	-2	8881	9.1	84.1	99.6	2	+1	-2	8941	9.0	76.3	01.1	2	-2	-1
8822†	8.2	75.6	00.0	5	+4	+6	8882†	9.1	85.2	95.9	3	-6	+2	8942	8.6	80.0	96.4	4	0	+1
8823	6.5	76.2	98.1	2	+2	-1	8883	9.0	84.0	95.9	3	+4	+2	8943	8.9	76.4	01.1	2	0	+3
8824	8.4	74.9	96.3	3	+2	-3	8884†	...	...	...	...	...	...	8944	8.5	75.6	00.7	3	+2	+2
8825	8.2	75.9	98.1	2	+2	0	8885†	9.1	77.1	98.1	4	-5	+1	8945	8.9	78.6	00.7	2	0	-1
8826	9.2	80.3	99.2	3	+2	-2	8886	9.4	74.1	98.1	4	-2	+2	8946	9.5	73.6	96.4	4	-3	+4
8827	9.0	81.3	98.1	2	0	0	8887	8.1	78.3	98.0	5	+1	-2	8947	9.2	86.1	01.1	2	-2	+3
8828	9.1	83.9	98.9	3	-3	0	8888	8.0	77.6	99.9	3	-4	-2	8948	9.2	85.7	01.1	2	+2	+4
8829†	7.0	76.4	99.2	3	+5	0	8889	8.0	79.2	98.0	5	+1	0	8949	9.0	75.3	00.7	2	+4	0
8830	9.1	85.3	96.3	3	-4	+1	8890†	9.0	83.1	98.0	5	0	-6	8950	9.1	79.0	96.3	3	+3	-2
8831	7.0	75.3	98.9	3	+8	+5	8891	9.4	77.1	99.6	2	0	+5	8951	9.1	85.7	00.7	2	-1	0
8832	9.1	82.6	98.1	2	+3	+1	8892	9.1	76.0	00.7	2	+2	+2	8952	9.3	75.6	00.7	2	-2	-1
8833†	5.8	76.0	98.1	2	+4	+6	8893	9.3	85.7	98.1	4	0	-2	8953	9.0	76.6	01.1	2	0	-2
8834†	5.0	74.0	98.5	2	-2	+2	8894	8.1	79.0	99.6	2	+6	+9	8954	9.0	75.9	96.3	3	-2	+1
8835	8.5	79.3	98.5	2	+3	-1	8895†	9.5	80.2	00.7	2	-10	-2	8955	9.3	94.6	95.9	3	+5	+2
8836	8.4	75.8	95.6	2	+4	0	8896	8.8	76.0	95.9	3	+3	-2	8956	9.2	79.3	99.6	2	0	+2
8837	8.9	76.6	99.0	3	+5	-1	8897	9.0	83.0	97.3	4	-2	+2	8957	9.0	81.1	95.9	3	-3	+2
8838	7.5	78.1	98.7	3	+7	0	8898	8.2	78.1	00.7	2	+2	-1	8958	6.8	74.3	00.7	2	+2	+4
8839	9.0	83.3	98.4	4	+1	+4	8899	9.2	87.0	00.9	4	0	0	8959	9.3	76.6	95.9	3	-3	+3
8840	8.5	79.9	99.2	3	+4	0	8900	9.5	77.1	95.9	3	-3	-2	8960	8.4	74.3	00.7	2	+2	0
8841	9.0	78.9	99.6	2	+2	-1	8901	9.5	83.6	00.2	3	-1	0	8961	9.0	79.9	99.6	2	0	-1
8842	9.4	87.6	95.6	2	-8	0	8902	8.7	77.1	95.9	3	-1	-3	8962	8.8	76.0	01.0	3	0	+1
8843	8.7	82.6	99.0	3	+2	-1	8903†	6.0	75.0	00.7	2	+5	-3	8963	9.2	85.3	96.3	3	-2	0
8844	8.0	78.6	00.7	3	+2	+5	8904	9.0	80.4	98.1	4	+1	0	8964	8.6	76.2	96.3	3	+1	+3
8845	9.5	74.9	01.0	3	-2	+2	8905	8.9	88.1	98.1	4	0	0	8965	7.9	75.6	95.9	3	+1	+3
8846	9.0	74.5	99.6	2	-6	-3	8906	7.0	76.1	95.9	3	+4	0	8966	8.7	76.6	95.9	3	+2	-3
8847	8.9	81.0	95.6	2	-1	-2	8907	9.5	83.1	98.1	4	-2	-2	8967	9.5	74.6	01.0	3	-6	-2
8848	9.1	84.6	99.9	3	+2	-2	8908	8.2	79.5	01.3	3	+6	0	8968†	8.7	74.3	00.7	2	+4	-3
8849	8.7	82.6	95.6	2	0	-3	8909	9.0	76.6	95.9	3	+3	-2	8969	8.6	82.9	00.7	2	-2	-2
8850	9.0	83.6	95.6	2	+4	0	8910	6.3	79.3	95.9	3	+2	-2	8970	9.0	77.2	00.7	2	-2	-2
8851	9.3	93.5	98.7	3	+3	-2	8911	8.5	77.6	00.2	3	0	-2	8971	9.0	86.6	96.3	3	0	-1
8852†	9.5	87.2	98.4	4	-10	0	8912	9.2	76.8	00.2	3	+1	-3	8972	9.5	73.6	00.7	2	-7	0
8853	9.0	83.6	00.7	3	+2	+7	8913	6.5	80.3	95.9	3	+5	-1	8973	9.4	76.6	99.6	2	0	+2
8854	8.7	76.0	99.6	2	+2	-2	8914	8.9	79.1	98.1	4	-2	0	8974	9.0	76.6	01.1	2	+2	-2
8855	9.2	82.6	00.7	2	0	-1	8915	9.2	85.2	00.2	3	+2	0	8975	8.2	75.4	95.9	3	+9	-1
8856	8.8	89.2	00.7	3	-1	+1	8916	9.3	79.6	95.9	3	+1	0	8976†	8.0	74.5	96.3	3	+10	+4
8857	8.1	78.6	00.7	2	+2	-2	8917	9.2	85.7	98.3	3	+2	+2	8977	9.2	80.1	00.7	2	+3	-1
8858	8.7	88.3	97.3	6	+5	+2	8918	9.0	75.3	00.7	4	+1	+2	8978	9.1	85.7	98.1	2	0	+4
8859	9.1	87.6	00.7	2	-9	-3	8919†	...	...	...	...	...	...	8979	9.2	82.4	95.9	3	0	-1
8860	8.8	78.6	95.4	4	+2	-1	8920	8.9	77.3	98.1	4	+5	0	8980	9.0	83.1	95.9	3	0	-2
8861	9.3	77.1	99.6	2	-1	-4	8921	9.0	76.3	98.1	4	0	0	8981	9.0	73.6	96.3	3	+4	-3
8862	8.7	92.6	97.2	5	+2	-1	8922	9.0	78.1	98.1	4	+1	-1	8982	9.1	79.9	99.0	3	-3	+3
8863	8.2	75.9	99.6	2	+8	-4	8923	9.1	81.6	96.4	4	+4	0	8983	9.5	85.6	00.7	2	-6	-2
8864	9.0	87.7	00.7	2	-2	0	8924	9.0	88.6	01.1	2	-3	-2	8984	9.0	75.9	96.3	3	-1	0
8865	9.2	78.6	01.0	3	+1	-1	8925	8.9	75.4	00.7	2	+2	-1	8985	8.9	77.3	95.9	3	+3	-3
8866	9.3	77.6	01.1	2	+2	+1	8926	9.0	76.3	00.3	3	-1	+2	8986†	9.5	92.6	95.9	3	-13	+2
8867	9.2	78.1	97.2	5	-6	+3	8927	9.0	85.7	01.1	2	+6	0	8987	9.5	83.1	00.7	2	-2	+3
8868	9.5	72.6	99.6	2	0	+6	8928	9.4	81.6	98.9	3	-6	+1	8988	9.3	90.6	99.0	3	-3	0
8869	9.5	86.1	95.4	4	0	+1	8929	8.6	76.9	01.1	2	+2	0	8989	9.0	83.1	96.3	3	+1	-2
8870	8.1	83.1	95.4	4	+4	+1	8930	9.2	78.0	96.4	4	+3	0	8990	8.0	76.1	96.3	3	0	-2
8871	9.0	76.1	01.1	2	-1	+3	8931	9.1	86.4	98.2	5	-4	+1	8991	9.2	85.2	96.3	3	-6	+2
8872	8.9	80.4	01.1	2	0	+2	8932	9.0	83.6	98.9	3	-2	+2	8992	9.2	77.1	99.1	4	0	+1
8873	9.0	73.6	99.6	2	-4	-1	8933	9.5	72.6	98.9	3	+6	-1	8993	7.5	75.8	98.5	2	+6	+1
8874	9.1	75.9	00.7	2	0	-4	8934	8.6	79.1	98.2	5	0	-3	8994	9.5	73.6	98.1	2	+2	-2
8875	9.2	92.6	99.6	2	-4	0	8935	9.5	73.6	96.4	4	0	+1	8995	8.7	75.3	99.6	2	+4	+2
8876	8.9	81.6	97.2	5	+3	0	8936	9.1	84.6	01.1	2	-3	0	8996	8.5	79.4	99.1	4	-4	-2
8877	9.2	80.3	95.4	4	-2	-2	8937	9.0	82.1	96.4	4	-3	+3	8997	9.2	82.1	98.6	1	+1	-2
8878	9.1	84.6	97.2	5	-2	-3	8938	9.1	77.3	96.4	4	-2	-2	8998†	9.5	74.6	98.5	2	-15	-6
8879	9.0	79.6	99.6	2	-2	+2	8939	9.1	76.1	97.4	5	+1	+1	8999	9.1	85.2	98.1	2	+3	+4
8880	6.5	78.6	99.6	2	+2	-3	8940	8.7	77.2	96.4	4	-4	-1	9000	8.8	77.4	99.1	4	+3	-3



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
9001	9.1	75.1	99.6	2	+ 2	0	9061	9.3	85.7	98.0	2	- 2	+ 1	9121	9.5	81.1	99.3	6	- 1	+ 1
9002	9.5	74.6	98.1	2	- 1	- 3	9062	9.1	84.7	98.0	2	- 2	- 2	9122	9.0	82.1	98.6	4	- 9	0
9003	9.1	78.5	98.5	2	- 2	- 2	9063	9.5	73.6	99.3	4	+ 5	0	9123	9.4	76.5	00.7	2	- 2	+ 4
9004	9.2	74.6	98.1	2	- 4	- 2	9064	9.4	83.6	99.3	4	- 7	+ 1	9124	8.1	86.3	00.7	2	- 1	0
9005	8.0	81.1	99.1	4	0	0	9065	9.3	83.6	98.0	2	- 3	+ 2	9125	9.2	74.9	00.0	5	- 2	- 1
9006	8.9	79.1	99.1	4	+ 3	- 3	9066	9.3	81.0	98.1	2	- 3	0	9126	9.0	82.2	00.7	2	- 2	0
9007†	9.5	73.6	01.5	1	+ 5	- 2	9067	9.4	80.7	97.2	3	- 2	0	9127	9.0	74.6	00.7	2	+ 5	0
9008	8.5	76.9	98.5	2	+ 3	- 1	9068	9.0	83.1	98.1	2	+ 2	- 3	9128	9.5	74.6	96.5	2	+ 2	- 3
9009	9.3	80.6	98.0	5	+ 3	0	9069	9.4	74.1	00.1	4	0	0	9129	9.5	79.2	98.0	2	- 2	+ 2
9010	9.4	88.0	99.6	2	- 3	0	9070	9.0	80.3	98.0	2	- 4	+ 2	9130	9.2	75.3	98.0	2	0	+ 3
9011	9.1	87.7	98.0	5	+ 1	+ 2	9071	9.0	75.3	99.6	3	0	+ 1	9131†	9.5	92.6	98.0	2	- 10	+ 5
9012	9.4	86.7	99.6	2	+ 3	0	9072	9.0	78.0	98.0	2	- 1	- 2	9132	9.4	86.6	00.7	2	- 3	+ 2
9013	7.5	74.6	98.0	5	+ 3	- 1	9073	9.2	75.6	98.0	2	- 1	+ 1	9133	9.0	75.4	00.6	3	+ 2	+ 2
9014	9.4	76.4	99.6	2	0	+ 3	9074	9.1	86.3	00.1	4	- 1	+ 2	9134	9.0	83.6	98.1	2	+ 3	- 2
9015	9.0	77.6	98.0	5	- 2	- 1	9075	9.5	91.1	00.7	1	+ 5	+ 2	9135	8.7	76.0	96.5	2	- 1	0
9016†	8.9	80.1	98.5	2	- 3	0	9076	9.0	74.5	00.1	4	- 2	+ 2	9136	9.0	82.6	98.1	2	- 8	+ 2
9017	9.0	75.2	99.1	4	+ 2	+ 1	9077	8.0	74.6	98.9	3	+ 7	0	9137	8.2	75.6	00.7	2	- 1	0
9018	9.1	87.7	99.3	4	- 6	- 1	9078	9.2	84.8	98.9	3	- 1	- 1	9138	8.1	76.6	98.1	2	0	- 3
9019	9.1	87.2	99.6	3	- 1	+ 1	9079	9.1	80.3	98.0	2	0	- 3	9139	9.0	78.1	00.7	2	+ 3	0
9020	9.1	80.2	99.6	3	+ 2	- 3	9080	7.2	74.6	98.1	2	+ 3	+ 6	9140†	9.5	79.6	98.1	2	- 20	- 4
9021	9.0	75.6	98.1	2	+ 1	- 2	9081	9.0	80.1	98.9	3	- 2	- 3	9141	8.8	92.6	00.7	2	0	- 1
9022	9.0	92.6	98.5	2	- 4	- 2	9082	9.0	75.6	98.9	3	- 2	0	9142	9.0	74.7	00.7	2	0	- 1
9023	8.3	75.8	99.6	3	+ 1	+ 1	9083	9.3	77.4	98.0	2	- 5	0	9143	7.0	75.2	00.7	2	+ 1	- 3
9024	9.3	87.3	99.9	3	- 2	+ 3	9084	9.3	85.6	00.7	2	- 6	+ 2	9144	8.8	78.2	00.7	2	+ 7	- 2
9025	9.0	76.1	99.2	3	+ 2	+ 1	9085†	9.5	88.7	98.0	2	- 2	0	9145	9.0	77.2	00.7	2	+ 1	+ 2
9026	9.0	75.1	99.4	4	- 1	0	9086	9.4	82.7	98.0	2	- 7	+ 2	9146	9.0	82.2	00.7	2	+ 1	+ 2
9027	9.0	75.0	98.1	2	+ 1	+ 2	9087	7.0	78.9	98.0	2	+ 3	+ 1	9147	9.3	82.2	00.7	2	- 3	0
9028	9.1	79.3	99.4	4	- 1	+ 1	9088	8.9	75.6	98.9	3	+ 3	0	9148	9.1	74.3	00.7	2	+ 5	0
9029	9.0	77.2	98.1	2	+ 3	0	9089	7.4	76.8	00.6	4	+ 3	+ 1	9149	9.0	75.3	00.7	2	0	+ 2
9030	9.0	74.9	99.9	3	- 2	0	9090	8.2	79.1	98.0	2	- 1	0	9150	8.2	75.0	00.7	2	+ 2	- 2
9031	9.0	75.3	99.6	3	+ 4	+ 8	9091	8.3	77.3	98.0	2	+ 2	0	9151	9.0	83.2	96.5	2	0	+ 1
9032	7.3	75.9	98.5	2	+ 4	- 2	9092	9.1	86.7	98.9	3	- 6	- 2	9152	9.3	76.6	00.7	2	0	- 3
9033	9.1	77.6	99.6	3	+ 2	- 1	9093	8.9	77.8	98.0	2	+ 3	0	9153†	9.3	78.7	98.1	2	- 12	- 2
9034	9.5	76.3	98.1	2	- 6	+ 3	9094	8.0	77.7	98.0	2	+ 4	0	9154	9.2	76.8	00.7	2	0	+ 2
9035	9.3	76.6	99.9	3	- 7	- 4	9095	9.2	75.1	00.6	4	0	+ 4	9155	9.1	74.6	97.9	3	+ 1	- 3
9036	6.8	75.9	98.1	2	+ 7	- 6	9096†	8.5	75.9	99.3	4	+ 3	- 2	9156†	9.0	78.4	98.1	2	- 2	0
9037	7.6	76.1	98.5	2	+ 3	+ 1	9097	9.2	84.7	98.0	2	+ 2	+ 1	9157†	9.0	79.6	98.1	2	- 11	- 1
9038	9.5	74.6	99.6	3	- 1	- 1	9098	9.0	75.3	98.9	3	+ 5	+ 2	9158	9.4	74.6	98.1	2	- 1	- 2
9039	9.4	79.3	99.6	3	- 5	- 2	9099	8.7	75.1	98.0	2	+ 6	0	9159	9.5	74.5	99.6	3	+ 1	- 1
9040	9.4	73.6	99.6	2	- 2	+ 2	9100	9.2	84.6	98.1	2	- 4	- 5	9160	9.1	84.7	96.5	2	- 2	+ 2
9041	9.1	80.3	99.6	3	- 1	0	9101	9.1	76.1	98.0	2	+ 4	+ 2	9161	7.5	81.3	98.9	3	+ 4	- 1
9042	7.7	75.6	98.1	2	+ 2	+ 1	9102	9.3	77.6	98.9	3	- 2	- 2	9162	8.5	77.2	98.1	2	- 1	0
9043	8.9	78.4	00.1	4	+ 1	+ 1	9103†	9.3	79.6	00.6	4	- 3	- 7	9163	9.1	86.7	00.7	2	0	- 2
9044	9.4	76.9	99.6	2	- 9	- 2	9104†	...	...	...	...	...	...	9164	8.2	74.3	99.6	3	+ 7	- 4
9045	9.0	75.0	00.1	4	+ 4	+ 1	9105	8.5	78.2	00.0	5	+ 5	0	9165	8.8	76.2	99.6	3	+ 3	+ 5
9046	9.4	78.6	00.1	4	- 6	+ 5	9106	9.2	75.6	98.6	4	- 8	0	9166	8.5	78.6	98.1	2	+ 5	+ 3
9047	9.4	75.4	98.5	2	+ 1	+ 1	9107	7.5	74.9	98.6	4	+ 5	- 1	9167	7.4	76.8	00.7	2	- 3	0
9048	9.3	76.1	99.2	5	+ 5	+ 1	9108	8.6	74.8	99.0	3	+ 2	- 4	9168	8.6	76.2	99.6	3	- 2	- 1
9049	8.2	77.4	00.2	5	+ 2	- 1	9109	8.5	79.9	00.2	5	0	+ 2	9169	8.0	76.0	00.7	2	0	- 7
9050	8.0	76.7	98.8	4	0	- 4	9110	9.1	84.7	99.0	3	- 4	+ 1	9170	9.1	86.7	99.6	3	+ 1	- 2
9051	8.6	74.6	99.9	4	+ 3	0	9111	8.1	75.0	00.7	2	+ 2	+ 2	9171	8.9	78.4	00.7	2	+ 3	+ 3
9052	9.0	74.6	00.2	5	- 2	+ 2	9112	9.0	76.0	00.0	5	+ 3	+ 1	9172	8.7	74.9	00.7	2	0	- 2
9053	8.5	80.3	00.2	5	+ 5	0	9113†	9.5	72.6	98.0	2	+ 17	+ 2	9173	9.3	87.7	99.6	3	- 3	0
9054	9.2	82.7	98.0	2	- 2	+ 4	9114	9.4	74.6	99.0	3	+ 1	- 2	9174	8.4	81.4	00.7	2	0	- 1
9055	9.2	85.1	98.1	2	- 6	- 2	9115	9.5	73.7	99.0	3	- 4	- 2	9175	9.0	80.3	00.7	2	0	- 2
9056	9.0	78.4	00.8	5	+ 1	0	9116	9.1	84.7	98.1	4	+ 4	+ 3	9176	9.0	74.4	99.4	4	- 3	- 2
9057	8.7	79.6	98.1	2	+ 2	+ 2	9117	8.7	76.1	98.9	5	+ 2	+ 1	9177	9.0	76.1	97.9	3	- 1	+ 1
9058	9.2	74.6	98.0	2	+ 2	+ 3	9118	9.1	75.9	98.9	3	+ 2	+ 3	9178†	9.0	75.6	97.9	3	- 1	+ 5
9059	9.1	75.3	98.1	2	+ 2	+ 1	9119	6.8	77.5	99.3	6	+ 4	+ 2	9179	9.0	79.3	96.9	3	- 2	0
9060	9.2	86.4	01.2	3	- 4	- 1	9120	9.4	79.9	00.7	2	- 6	0	9180	8.7	75.6	98.7	4	+ 5	- 4



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
9181	9.2	77.9	00.7	2	0	+ 1	9241	9.2	87.7	00.7	2	0	0	9301	6.6	75.6	00.6	3	+ 6	- 2
9182	8.3	75.0	99.4	4	- 2	+ 2	9242	8.3	79.4	00.7	3	+ 1	+ 3	9302†	9.5	73.6	00.6	3	+ 19	0
9183	9.1	80.6	96.9	3	0	0	9243	9.5	73.6	00.7	2	- 1	- 1	9303	8.8	75.0	00.9	4	+ 1	+ 3
9184	9.4	75.1	99.4	4	- 2	- 1	9244	8.4	76.6	00.7	2	+ 1	0	9304	9.5	74.7	00.6	3	- 5	+ 1
9185	9.3	74.6	00.0	3	- 2	+ 5	9245	7.6	82.3	00.7	2	+ 1	0	9305	9.0	78.6	98.5	4	+ 2	0
9186	7.7	75.3	96.9	3	+ 5	- 1	9246	9.5	86.7	02.7	3	- 1	0	9306	8.8	95.5	00.9	3	+ 2	0
9187	9.0	74.9	00.7	3	+ 3	+ 2	9247	8.3	81.7	02.2	4	+ 3	+ 1	9307	8.4	74.4	00.9	3	+ 6	- 4
9188	7.3	75.1	99.0	5	+ 5	- 3	9248	8.4	74.9	96.8	5	+ 6	0	9308	7.6	74.0	98.6	3	+ 2	+ 4
9189	8.0	74.6	98.7	4	+ 5	+ 3	9249	9.0	78.4	96.6	4	+ 3	- 2	9309	9.2	84.1	98.6	3	0	0
9190	8.9	78.9	00.7	3	- 2	+ 2	9250	8.5	75.4	00.9	4	+ 1	- 4	9310	7.8	76.6	97.1	5	+ 7	- 1
9191	9.5	73.6	02.1	2	- 8	- 1	9251	9.3	78.6	96.4	4	+ 1	- 1	9311	9.0	80.6	98.5	4	0	0
9192	9.5	78.0	00.7	5	- 5	0	9252	8.8	84.7	00.7	3	+ 5	+ 3	9312	9.4	76.4	00.9	3	+ 1	- 3
9193	7.5	74.8	96.9	3	+ 5	0	9253	9.3	87.6	00.9	4	- 2	0	9313	9.0	77.6	98.5	4	- 4	- 6
9194	9.0	74.2	98.6	1	+ 1	+ 2	9254	9.4	88.1	96.6	4	- 4	- 1	9314	9.1	84.7	00.9	3	- 1	0
9195	9.0	83.1	96.9	3	- 1	- 2	9255	9.5	74.6	96.4	4	0	+ 1	9315	9.2	80.8	98.6	3	- 2	0
9196	9.4	75.0	98.1	2	- 5	0	9256	9.5	87.7	96.3	3	- 5	+ 1	9316	8.4	79.4	97.0	4	+ 4	- 1
9197	8.8	75.0	00.7	2	- 1	+ 2	9257	9.1	82.3	95.9	3	- 2	0	9317†	...	...	...	...	...	...
9198	9.0	84.1	00.7	2	- 6	+ 3	9258	9.2	87.3	00.9	4	- 4	- 2	9318	8.2	78.1	98.5	4	+ 1	0
9199	9.3	74.6	98.1	2	+ 2	+ 4	9259†	...	...	...	...	...	...	9319	8.1	79.1	98.5	4	+ 5	+ 7
9200	9.4	92.6	00.7	2	- 2	+ 2	9260	6.3	81.1	95.6	2	+ 4	0	9320	9.2	83.7	97.1	5	- 7	+ 1
9201	9.2	75.3	99.1	2	- 1	+ 2	9261	8.8	74.6	00.9	3	- 2	+ 1	9321	9.2	78.9	97.1	5	+ 2	- 1
9202	9.2	86.7	00.7	2	0	- 1	9262†	9.5	85.7	00.7	2	- 12	+ 6	9322	9.2	87.2	99.1	2	- 7	0
9203	9.5	73.6	98.1	2	- 8	0	9263	7.6	73.4	99.1	2	+ 2	- 1	9323	8.0	77.3	97.9	3	- 1	- 1
9204	8.7	73.9	00.7	2	+ 2	+ 2	9264	9.4	81.6	96.3	3	- 9	+ 1	9324	8.0	74.0	00.9	3	+ 4	- 6
9205†	8.1	74.8	00.7	2	+ 4	+ 1	9265	9.0	77.7	95.9	3	+ 2	- 1	9325	9.3	88.6	97.9	3	- 7	- 4
9206	9.2	87.7	98.6	1	- 5	- 2	9266	9.2	77.6	99.1	2	- 3	0	9326	9.1	81.3	97.9	3	0	0
9207	8.9	73.6	99.1	2	+ 3	0	9267	8.8	82.3	99.1	2	+ 2	- 4	9327	9.1	84.7	97.9	3	+ 2	0
9208	9.4	77.1	99.1	2	+ 4	+ 2	9268	8.8	77.0	96.3	3	+ 2	0	9328	9.3	75.6	99.1	2	- 3	+ 2
9209	9.3	84.6	99.1	2	- 5	0	9269	9.2	85.7	95.9	3	+ 3	- 1	9329	9.4	75.6	01.2	4	- 2	0
9210	9.2	79.1	99.1	2	- 4	0	9270	9.5	73.6	96.6	4	- 3	+ 2	9330	7.5	75.9	97.0	4	+ 3	- 2
9211†	4.9	75.6	97.6	2	+ 9	- 3	9271	8.7	76.3	99.1	2	+ 8	0	9331	9.3	86.4	02.0	5	- 3	- 3
9212	9.0	74.9	00.7	2	+ 1	+ 1	9272	8.5	75.2	00.6	3	- 1	0	9332	8.4	78.1	97.0	4	- 1	+ 1
9213	9.0	80.6	00.7	2	0	- 4	9273	9.2	85.1	96.0	3	+ 1	- 1	9333	9.5	74.1	01.2	4	+ 7	- 1
9214	9.0	78.0	00.7	2	+ 3	0	9274	8.5	75.3	00.6	3	0	+ 1	9334	9.5	75.1	01.2	4	+ 4	- 2
9215	9.5	83.6	97.6	2	- 3	0	9275	9.1	84.6	00.6	3	0	- 1	9335	9.0	74.4	97.9	3	+ 4	- 1
9216	9.0	74.9	00.7	2	0	- 1	9276	9.5	73.6	96.0	3	- 1	+ 3	9336	9.0	75.3	97.0	4	- 4	0
9217	9.1	75.6	99.1	2	- 2	+ 2	9277	6.9	74.6	96.0	3	+ 6	+ 1	9337	9.2	83.4	95.9	3	0	0
9218	8.1	74.9	98.1	2	+ 2	- 2	9278	8.9	77.7	00.6	3	- 3	- 1	9338	9.0	77.4	02.0	5	+ 1	- 1
9219	9.2	77.0	98.6	3	- 3	+ 3	9279	9.1	84.7	96.3	3	+ 4	0	9339	9.3	74.7	01.2	4	- 3	+ 2
9220	9.1	79.9	00.7	2	- 3	+ 3	9280	9.2	86.4	00.9	4	- 1	+ 1	9340	9.0	83.1	01.2	4	- 7	+ 1
9221	8.9	77.4	97.6	2	- 3	- 2	9281	7.5	74.4	00.6	3	+ 2	- 1	9341	8.6	78.3	01.2	4	+ 3	+ 1
9222	9.3	73.6	98.1	2	0	0	9282	9.4	87.7	98.6	1	- 8	- 3	9342	9.3	86.3	01.1	3	- 3	0
9223	8.2	74.8	99.1	2	+ 2	- 6	9283	9.4	76.0	96.0	3	0	- 1	9343	8.9	75.0	01.3	3	- 1	+ 1
9224	8.9	76.0	97.6	2	0	- 4	9284	9.2	85.7	00.7	2	0	+ 2	9344	9.1	75.6	97.9	3	+ 1	+ 1
9225	8.9	75.2	98.6	1	- 1	0	9285	8.9	78.8	00.6	3	+ 1	+ 1	9345	6.2	75.3	01.6	3	0	- 6
9226	9.2	75.1	97.9	3	+ 3	+ 2	9286	9.3	88.3	96.6	4	- 9	+ 2	9346	9.5	73.6	97.9	3	+ 7	+ 1
9227	9.5	75.4	00.7	2	0	- 3	9287	9.0	76.3	00.6	3	+ 3	+ 2	9347	9.1	74.9	02.3	4	- 3	0
9228	9.1	87.7	99.1	2	- 2	- 3	9288	8.0	75.2	00.6	3	- 4	- 2	9348	8.6	81.3	01.3	3	+ 3	+ 1
9229	9.4	73.6	97.9	3	- 2	+ 1	9289	9.2	88.7	00.6	3	- 2	+ 2	9349†	9.3	81.6	95.9	3	- 13	+ 6
9230	9.5	74.9	00.7	2	+ 2	0	9290	9.1	86.7	00.6	3	0	- 2	9350	9.4	74.6	02.3	3	- 1	- 6
9231	9.5	74.6	99.1	2	- 6	+ 1	9291	8.1	76.0	99.1	2	0	- 2	9351	9.0	79.7	01.3	3	- 1	- 2
9232	9.5	73.6	98.6	1	+ 5	- 1	9292	8.6	74.4	00.7	2	+ 1	+ 2	9352	8.7	87.4	01.3	2	0	0
9233	9.3	87.7	00.7	2	- 3	- 2	9293	9.1	83.6	96.3	3	+ 4	0	9353	9.5	74.6	01.3	3	+ 1	- 1
9234	9.4	75.0	96.4	4	0	- 1	9294	9.2	77.9	99.1	2	+ 1	0	9354	9.2	77.4	95.9	3	- 2	0
9235	9.5	84.6	00.7	2	- 2	+ 3	9295	8.3	77.0	00.6	3	0	0	9355	9.2	80.0	95.9	3	- 1	0
9236	8.8	77.2	00.7	2	0	0	9296	9.2	87.3	00.6	3	- 3	+ 2	9356	9.1	85.5	99.0	5	- 2	0
9237	9.2	84.6	00.7	2	- 3	0	9297	9.4	88.6	00.6	3	+ 6	+ 3	9357	9.1	75.8	01.6	3	- 9	- 4
9238	8.1	82.3	00.7	2	- 4	+ 2	9298	9.0	80.7	00.9	4	- 1	+ 2	9358	7.4	74.8	01.3	3	+ 5	+ 4
9239	9.2	84.6	00.7	2	- 4	- 2	9299	9.2	85.7	00.7	2	- 1	+ 2	9359	9.5	92.6	01.3	2	- 5	- 3
9240	8.5	74.8	99.1	2	+ 3	0	9300	9.1	74.9	97.1	5	- 3	- 1	9360	9.1	84.1	01.3	3	- 2	- 2



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No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
9361	9.2	86.4	01.3	3	+ 1	- 1	9421	9.1	85.3	00.9	3	0	- 1	9481	9.0	74.0	00.9	3	+ 4	+ 5
9362	9.0	76.9	01.6	3	- 3	- 2	9422	8.5	80.1	01.6	3	+ 3	0	9482	8.8	78.3	96.3	3	+ 2	- 3
9363	9.1	76.7	01.6	3	+ 5	0	9423	9.1	84.7	01.3	2	- 6	+ 2	9483	8.2	74.8	01.6	3	+ 1	+ 1
9364	8.3	80.1	95.8	5	+ 4	- 1	9424†	9.2	74.8	01.3	2	+ 1	- 2	9484†	6.4	88.7	96.3	3	+ 16	0
9365	9.3	87.0	01.3	3	- 3	0	9425	8.4	79.6	01.6	3	- 2	0	9485	9.2	84.4	99.3	3	0	+ 2
9366	9.1	80.6	95.8	5	- 3	0	9426	9.3	90.7	98.7	2	+ 6	- 5	9486	8.7	75.1	96.3	3	- 4	- 2
9367†	8.6	81.7	01.3	3	+ 3	0	9427	9.2	85.7	01.1	4	+ 1	0	9487	7.0	75.6	00.9	3	+ 3	+ 1
9368	7.7	75.0	96.4	6	+ 2	0	9428	7.8	78.0	97.0	4	+ 3	0	9488	6.9	76.0	98.7	2	+ 5	0
9369†	9.5	85.2	97.6	1	- 9	+ 2	9429	9.1	84.7	99.3	3	+ 1	0	9489	9.3	82.7	96.6	3	+ 1	0
9370	8.8	81.5	01.3	3	+ 2	- 4	9430	9.0	80.3	97.0	4	+ 4	- 2	9490†	8.9	74.3	01.6	3	+ 1	- 1
9371	9.1	76.1	98.0	7	- 3	- 1	9431	8.1	79.7	97.0	4	- 3	+ 3	9491	9.2	85.7	01.6	3	+ 1	+ 1
9372	8.1	82.2	01.3	2	0	- 1	9432	9.0	73.6	97.1	5	0	+ 3	9492	8.1	75.0	98.7	2	+ 2	0
9373	9.5	73.6	01.3	3	- 3	0	9433	9.2	75.6	96.3	3	- 1	0	9493	8.3	76.4	00.0	4	+ 2	- 1
9374	9.4	82.7	96.4	6	- 5	- 2	9434	8.5	81.4	97.0	4	+ 2	+ 1	9494	9.2	82.6	98.7	2	- 9	0
9375	9.3	80.7	95.8	5	- 9	0	9435	8.9	88.0	01.6	3	0	- 1	9495	9.0	76.5	96.6	3	+ 1	+ 7
9376	9.3	90.7	98.0	7	+ 1	0	9436	9.2	86.0	00.9	3	- 4	- 1	9496	8.4	76.7	01.6	3	+ 3	+ 1
9377	9.1	82.5	98.7	6	- 1	+ 1	9437	9.4	88.7	01.6	3	+ 1	- 2	9497	9.1	86.2	00.9	3	- 3	- 6
9378	9.3	75.7	01.3	3	- 3	- 1	9438	9.2	75.6	96.3	3	+ 9	- 3	9498	9.2	87.7	98.7	2	0	0
9379	8.9	75.6	95.8	5	+ 2	- 1	9439	9.5	72.6	00.1	4	+ 1	+ 2	9499	9.1	80.7	01.6	3	+ 1	- 1
9380	9.1	75.0	95.8	5	+ 6	0	9440	9.1	75.0	98.6	2	+ 2	0	9500	9.2	86.7	98.7	2	- 3	0
9381	9.1	86.0	01.3	3	- 4	+ 4	9441†	6.9	75.4	99.3	3	+ 9	+ 17	9501	9.0	75.4	00.9	3	- 2	- 1
9382	9.0	78.3	95.8	5	- 4	+ 2	9442	9.0	75.6	01.6	3	0	+ 1	9502	9.1	82.0	98.7	2	- 5	+ 1
9383	7.0	74.3	01.4	5	+ 3	+ 6	9443	8.7	81.9	97.0	4	+ 1	- 6	9503	9.2	74.9	96.6	3	- 2	0
9384	9.4	74.3	96.4	6	- 1	0	9444	9.3	83.1	98.5	2	- 5	+ 3	9504	9.3	78.7	01.6	3	- 7	- 6
9385	8.8	77.3	96.6	7	+ 1	+ 1	9445	9.2	74.0	98.7	2	+ 1	0	9505	9.4	76.6	96.6	3	- 5	+ 2
9386	8.6	79.1	01.3	3	+ 1	+ 3	9446	9.0	74.5	96.3	3	- 2	0	9506	9.0	78.6	00.9	4	- 1	+ 1
9387	9.0	74.8	01.6	3	+ 1	0	9447	9.3	92.6	98.7	2	- 6	0	9507	8.8	78.4	00.9	4	- 1	0
9388	9.0	78.6	02.3	4	- 4	+ 1	9448	9.0	88.0	98.7	2	0	+ 1	9508	8.5	75.9	99.8	5	+ 1	- 3
9389†	...	...	...	...	...	...	9449†	8.6	75.4	98.7	2	+ 2	- 1	9509	9.3	80.4	00.9	4	- 1	+ 1
9390	8.6	81.4	01.3	2	+ 2	+ 3	9450	9.4	76.7	00.9	3	- 4	+ 2	9510	9.1	75.5	96.6	3	- 1	0
9391	9.3	80.7	96.3	3	+ 7	0	9451	9.2	76.3	00.6	4	0	0	9511	9.3	73.6	99.7	3	+ 3	- 1
9392	8.5	80.4	01.3	3	+ 1	- 1	9452	8.8	75.6	00.6	4	- 1	- 1	9512	9.5	74.6	97.1	2	+ 8	0
9393	9.2	79.2	96.3	3	- 8	+ 2	9453†	5.6	73.9	98.2	5	+ 10	+ 1	9513	9.3	77.7	00.9	4	- 7	+ 3
9394	8.9	78.6	01.6	3	0	+ 2	9454	9.2	80.0	00.9	3	- 2	0	9514	9.5	74.7	99.7	3	- 2	+ 2
9395	9.3	77.6	96.3	3	0	- 3	9455	9.3	79.4	00.9	3	- 1	- 1	9515	9.4	88.7	97.4	5	- 7	+ 1
9396	8.7	79.9	97.1	5	+ 2	0	9456	9.2	74.7	96.6	4	+ 1	0	9516	7.9	76.2	99.7	3	+ 7	- 3
9397	8.3	76.9	97.0	4	+ 4	+ 3	9457	9.0	83.6	96.6	4	- 2	+ 2	9517	9.4	77.6	98.0	3	- 6	+ 2
9398	9.1	85.7	01.6	3	+ 3	+ 3	9458	9.0	75.6	98.7	2	- 9	- 1	9518	9.1	74.9	98.7	3	0	+ 1
9399	7.5	80.0	97.0	4	+ 1	+ 2	9459	8.0	74.6	96.6	4	+ 2	- 3	9519	9.1	84.5	98.0	3	+ 2	- 1
9400	9.0	75.3	96.3	3	- 3	+ 2	9460	7.5	75.3	96.6	4	+ 2	- 3	9520	9.2	81.2	98.7	3	+ 7	+ 8
9401	9.1	83.6	97.0	4	- 1	- 3	9461	9.0	75.6	97.4	5	- 2	- 3	9521	8.9	77.6	96.6	3	+ 3	- 2
9402	9.0	84.7	96.3	3	0	- 1	9462	8.6	76.6	97.4	5	+ 2	- 1	9522	8.3	75.5	96.6	3	0	0
9403	9.0	77.1	97.0	4	0	- 1	9463	9.3	80.3	97.4	5	- 9	+ 3	9523	9.3	80.7	98.6	2	- 2	- 2
9404	9.3	74.6	97.1	5	+ 2	+ 6	9464	9.0	77.6	97.4	5	- 1	- 2	9524	8.9	80.1	97.1	2	+ 2	+ 1
9405	9.5	87.0	01.1	3	- 3	- 1	9465	9.2	79.1	98.3	6	0	0	9525	7.3	77.7	96.6	3	+ 2	- 1
9406	9.3	74.9	99.9	4	0	+ 1	9466	8.6	78.7	98.7	2	+ 3	0	9526	9.1	77.3	96.6	3	0	+ 1
9407	9.0	76.4	01.6	3	- 2	0	9467†	...	...	...	...	...	...	9527	9.4	85.7	96.2	2	- 1	- 3
9408†	9.0	74.6	01.6	3	+ 10	+ 2	9468	8.1	79.4	00.9	3	+ 2	- 2	9528	7.8	74.6	96.9	4	+ 3	+ 2
9409	9.0	74.6	00.9	5	+ 2	- 2	9469	8.9	77.1	00.6	4	- 3	- 1	9529	7.8	75.1	98.6	2	- 2	0
9410†	...	...	...	...	...	...	9470†	...	...	...	...	...	...	9530	9.1	84.0	97.1	2	- 2	- 4
9411	9.2	75.7	97.0	4	+ 4	- 2	9471	8.4	81.1	01.1	4	+ 1	0	9531	8.7	84.7	96.9	4	0	- 2
9412†	...	...	...	...	...	...	9472	7.7	84.7	00.9	3	+ 8	- 2	9532	9.2	86.7	97.1	2	- 6	0
9413	8.7	74.6	98.4	4	+ 4	+ 2	9473	9.1	74.1	98.7	2	+ 2	- 2	9533	9.5	73.7	97.1	2	- 2	+ 2
9414	9.4	87.6	00.0	4	- 6	+ 3	9474	9.0	78.3	98.7	2	+ 1	- 2	9534	9.1	87.7	98.2	2	- 4	- 2
9415	9.0	76.6	97.0	4	- 9	- 2	9475	9.1	74.2	98.7	2	- 7	- 6	9535	9.5	74.1	96.6	4	- 5	+ 2
9416	9.0	78.1	97.0	4	- 2	+ 1	9476	9.5	74.7	96.6	4	+ 4	+ 3	9536	8.6	79.8	98.2	2	+ 3	- 2
9417	7.7	75.3	00.1	4	+ 2	- 2	9477	9.1	83.2	00.6	4	+ 1	+ 2	9537	9.0	77.5	96.9	4	- 1	+ 4
9418	9.3	78.6	00.9	3	+ 1	+ 1	9478	8.7	77.0	98.9	6	- 2	- 1	9538	8.9	76.5	96.6	4	0	- 5
9419	9.1	85.0	00.9	3	- 1	+ 3	9479	8.2	93.3	96.3	3	+ 1	- 2	9539	9.2	87.7	98.2	2	- 1	+ 2
9420	9.0	78.6	01.6	3	0	0	9480	8.5	81.4	96.3	3	+ 2	- 1	9540	9.0	81.4	97.1	2	- 2	+ 2



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
9541	8.8	78.4	96.9	4	+ 2	- 3	9601	9.5	72.6	97.6	3	- 7	+ 1	9661	9.5	85.7	98.2	3	+ 2	0
9542	9.0	75.6	99.3	3	+ 1	+ 1	9602	9.2	84.7	98.3	4	- 1	+ 2	9662	8.3	75.4	98.2	3	- 1	0
9543†	9.3	84.2	98.7	1	- 11	+ 2	9603	9.3	85.7	98.3	4	- 1	0	9663	9.3	75.1	98.2	2	- 5	0
9544	7.6	78.7	98.2	2	+ 2	0	9604	9.0	77.2	99.7	2	+ 3	+ 2	9664	9.3	76.0	01.1	2	- 2	+ 1
9545	9.0	76.7	97.1	2	+ 1	+ 2	9605	9.0	73.3	98.0	3	+ 3	+ 1	9665	9.3	75.3	98.2	2	- 2	- 2
9546	9.5	75.1	98.6	2	0	0	9606†	9.0	78.7	99.7	2	+ 11	0	9666	8.6	77.6	99.7	2	+ 3	+ 2
9547	8.9	79.1	96.9	4	0	- 1	9607†	7.6	74.1	01.3	2	+ 14	+ 10	9667	8.6	77.6	98.2	3	0	- 1
9548	9.0	80.8	98.2	2	+ 3	- 2	9608	9.0	78.7	98.3	4	+ 3	- 1	9668	9.4	75.7	00.4	5	- 3	+ 3
9549	9.3	75.6	96.9	4	- 1	- 4	9609	9.2	85.0	98.5	3	- 6	+ 1	9669	9.0	74.7	01.8	3	0	- 1
9550	9.1	77.6	98.2	2	- 3	+ 2	9610	9.0	79.0	98.3	4	- 3	- 3	9670	9.0	80.7	99.1	5	+ 1	+ 2
9551	8.1	79.1	96.9	4	+ 1	- 1	9611	7.7	79.2	98.3	4	+ 2	+ 2	9671	9.5	93.3	00.4	5	- 2	- 1
9552	9.2	81.4	97.1	2	- 4	0	9612	9.0	77.9	01.1	2	0	- 2	9672	9.5	74.6	00.4	5	- 1	+ 2
9553	8.7	76.1	96.9	4	0	- 1	9613	8.8	77.0	99.7	2	- 5	0	9673†	9.1	75.3	99.0	6	+ 1	+ 3
9554	9.2	81.7	98.2	2	- 2	+ 2	9614	8.8	80.5	98.3	4	+ 1	+ 1	9674	9.5	74.6	00.4	5	0	+ 1
9555	9.0	78.4	96.3	3	+ 2	- 1	9615†	8.3	74.8	01.1	2	+ 4	- 2	9675	8.3	75.1	99.2	4	+ 3	+ 4
9556	9.5	78.1	98.7	1	- 6	- 2	9616	9.0	74.7	01.1	2	+ 3	- 2	9676	8.5	80.3	99.2	4	+ 3	0
9557	9.3	84.9	97.3	3	+ 1	0	9617	9.1	82.7	01.1	2	- 6	- 3	9677	9.4	77.4	01.3	4	- 3	+ 3
9558	7.7	75.1	98.1	2	+ 6	+ 2	9618	7.5	77.2	98.3	4	+ 5	- 7	9678	7.4	78.7	99.2	4	+ 6	- 3
9559	7.7	80.2	98.2	2	+ 4	0	9619	8.6	81.1	98.3	4	+ 3	+ 3	9679	9.4	81.9	01.3	4	0	+ 2
9560	9.4	80.7	98.2	2	0	+ 1	9620	8.0	74.9	97.9	4	+ 1	- 2	9680	9.0	74.8	98.4	3	- 3	0
9561	9.2	74.9	97.6	2	+ 1	+ 1	9621	9.0	83.1	99.7	2	- 1	+ 3	9681	7.7	80.0	99.2	4	+ 1	+ 1
9562†	9.0	73.6	97.1	2	- 2	+ 1	9622	9.2	90.7	01.1	2	+ 1	- 3	9682	9.0	76.3	99.2	4	0	0
9563	8.9	73.6	98.1	2	+ 3	0	9623	8.9	79.0	00.4	3	+ 1	+ 1	9683	9.2	82.1	99.2	5	- 4	- 1
9564	7.6	76.1	98.1	2	+ 1	- 3	9624	8.9	74.6	97.9	4	0	- 4	9684	9.4	75.1	99.2	5	- 3	+ 1
9565	9.0	73.6	97.6	2	- 2	0	9625	8.5	78.6	99.7	2	- 1	0	9685	9.1	82.7	98.4	3	+ 3	- 1
9566	9.0	75.1	98.6	2	- 4	- 2	9626	8.7	75.9	01.1	2	+ 2	- 1	9686	8.1	78.9	01.4	3	+ 7	- 2
9567	8.9	74.7	98.6	2	- 2	0	9627	9.0	80.1	99.7	2	0	- 1	9687	6.9	78.7	00.3	5	0	+ 2
9568†	9.4	76.3	98.1	2	- 12	- 3	9628	8.6	78.9	01.1	2	+ 3	- 1	9688	9.2	82.7	98.4	3	- 1	+ 4
9569	9.2	84.2	98.6	2	- 7	- 1	9629	7.0	75.1	01.3	2	+ 1	+ 2	9689	9.1	84.4	98.4	3	+ 2	+ 1
9570	7.9	74.3	98.1	2	+ 2	- 1	9630	8.9	74.0	98.2	2	+ 2	+ 1	9690	9.2	89.2	00.3	4	- 1	+ 2
9571	8.0	77.9	98.1	2	+ 3	+ 3	9631	7.8	78.3	98.2	3	- 1	- 5	9691	9.1	78.0	99.2	4	0	0
9572	9.0	75.2	97.6	2	- 4	0	9632	8.6	75.0	01.1	2	0	- 2	9692	9.2	85.7	99.0	3	- 1	- 2
9573	9.0	82.6	97.6	2	- 2	+ 3	9633	8.4	79.2	01.1	2	+ 1	- 2	9693	9.5	73.6	99.7	2	- 5	0
9574	6.6	75.0	98.6	2	+ 2	- 1	9634	8.7	75.4	97.6	2	0	0	9694	8.7	78.2	99.2	4	+ 2	- 1
9575	8.1	74.6	98.6	2	+ 1	- 4	9635	9.3	79.0	01.1	2	+ 3	+ 1	9695	8.8	75.5	01.2	2	- 1	- 1
9576	9.2	86.4	98.1	2	+ 2	+ 2	9636	9.3	80.7	01.1	2	- 7	- 3	9696	8.8	75.4	99.2	5	- 1	0
9577	8.0	78.9	98.7	3	+ 1	0	9637	9.3	77.6	97.6	2	0	+ 1	9697	9.3	84.9	99.2	5	0	+ 1
9578	7.8	74.8	97.1	2	+ 4	- 1	9638†	9.0	73.6	97.6	2	- 11	+ 1	9698	9.0	77.3	01.0	3	- 2	+ 1
9579	9.3	78.7	98.1	2	+ 1	+ 2	9639	9.5	72.6	98.0	3	+ 9	+ 5	9699†	7.7	80.2	01.3	2	+ 4	- 1
9580	9.0	76.3	98.6	2	- 2	+ 1	9640	9.3	79.2	99.7	2	- 2	0	9700	9.1	81.0	99.2	4	+ 5	+ 1
9581	9.0	73.1	97.1	2	+ 3	+ 2	9641	9.2	84.7	99.7	2	+ 6	0	9701	8.2	78.9	01.2	2	+ 6	- 1
9582†	9.0	79.7	98.1	2	- 2	- 14	9642	9.0	85.0	98.2	3	- 3	+ 2	9702	9.5	80.7	99.7	2	- 6	- 4
9583	9.0	77.6	98.1	2	0	0	9643	8.3	76.7	01.1	2	+ 1	0	9703	8.9	75.0	98.2	2	0	- 2
9584	9.4	79.7	97.6	2	- 4	0	9644	9.2	84.7	01.1	2	0	+ 1	9704	9.1	84.7	98.2	2	+ 3	0
9585	9.0	84.7	98.3	3	- 5	- 4	9645	8.7	80.7	98.2	3	+ 1	+ 1	9705	9.1	75.0	99.7	2	- 2	+ 2
9586	9.5	73.7	98.1	2	- 8	+ 1	9646	9.2	90.7	01.3	2	0	- 2	9706†	9.2	81.7	01.2	2	- 12	+ 1
9587	9.1	79.9	97.6	2	- 2	- 3	9647	9.0	78.6	98.4	2	- 1	+ 1	9707	8.6	82.3	98.2	2	- 1	0
9588†	5.6	75.1	98.3	3	+ 13	+ 5	9648	9.0	75.3	98.2	2	- 2	- 2	9708	8.4	74.6	99.7	3	+ 6	+ 4
9589	9.2	77.7	98.3	3	- 4	0	9649	9.0	74.4	99.7	2	+ 5	0	9709	9.0	77.9	99.7	2	0	0
9590†	9.5	80.6	98.1	2	- 12	+ 1	9650	8.9	78.2	98.2	3	- 4	+ 3	9710	9.2	75.3	99.7	2	- 2	+ 5
9591†	9.2	76.3	98.1	2	+ 4	- 1	9651	8.8	78.5	98.2	3	+ 1	0	9711†	9.4	80.7	99.5	4	- 13	- 3
9592	8.3	75.0	97.6	2	+ 1	0	9652	8.8	88.3	99.7	2	+ 4	- 3	9712	7.0	75.3	00.4	3	+ 1	+ 4
9593	8.7	75.0	98.1	2	+ 2	+ 1	9653	9.0	75.9	99.7	2	- 3	0	9713	9.0	79.6	99.7	2	0	+ 2
9594	8.6	74.7	00.4	3	+ 1	+ 3	9654	9.5	86.7	01.1	2	+ 7	- 2	9714	9.4	84.2	99.7	2	+ 1	0
9595	8.9	73.6	97.6	2	0	+ 4	9655†	9.5	87.7	98.2	3	- 18	- 4	9715	8.1	75.4	01.2	2	- 3	+ 1
9596	9.0	77.3	98.1	2	+ 2	0	9656	9.0	82.2	01.3	2	- 5	+ 2	9716	9.0	80.9	99.7	3	+ 1	+ 2
9597	9.3	82.7	00.3	3	+ 3	+ 1	9657	9.5	82.2	01.1	2	0	0	9717	8.8	74.2	98.2	2	- 3	0
9598	8.7	80.0	00.3	3	- 1	+ 2	9658	9.3	75.1	01.3	2	- 3	+ 1	9718	9.2	80.4	99.6	4	- 3	- 4
9599	9.5	73.6	99.7	2	- 5	0	9659	8.9	77.6	99.7	2	+ 4	+ 2	9719	8.4	75.0	01.2	2	+ 1	- 3
9600	9.1	81.7	00.3	3	+ 1	+ 1	9660	9.4	80.7	99.7	2	- 6	- 1	9720	9.5	89.9	99.7	2	+ 1	- 1



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No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
9721	9.1	84.7	01.2	2	- 2	- 2	9781	8.8	75.6	99.1	5	0	+ 2	9841	9.1	82.2	01.4	3	- 4	- 2
9722	9.2	80.7	99.7	2	- 2	- 2	9782	9.5	73.6	00.4	3	- 6	0	9842	9.0	74.5	00.7	4	0	- 3
9723	9.0	77.5	99.2	5	+ 3	0	9783	9.0	75.6	98.2	2	+ 2	+ 3	9843	9.0	78.0	01.4	3	0	- 1
9724	9.5	72.7	99.7	3	- 6	- 8	9784	8.7	74.0	99.7	3	+ 2	- 1	9844	9.4	80.7	97.7	3	+ 1	- 1
9725	8.4	88.6	99.7	2	+ 3	+ 3	9785	9.0	75.7	99.3	5	0	+ 2	9845	8.9	74.7	01.4	3	+ 4	0
9726	8.9	74.9	98.2	2	- 2	0	9786	8.1	74.2	99.7	2	- 2	- 9	9846	9.4	82.1	01.7	3	- 5	- 4
9727	9.0	78.5	99.7	3	0	+ 2	9787	8.7	75.8	01.2	2	+ 5	+ 1	9847†	9.4	81.7	98.7	2	+ 13	- 8
9728	7.1	74.6	99.6	4	+ 3	- 2	9788	7.8	76.7	99.7	4	+ 6	+ 2	9848	9.3	78.2	01.7	4	0	0
9729	9.5	76.2	99.7	2	- 3	0	9789	9.1	75.9	99.7	3	- 2	+ 1	9849	9.3	82.4	01.7	4	- 3	+ 4
9730	9.1	84.0	01.2	2	+ 3	+ 2	9790†	9.1	82.8	01.2	2	0	- 16	9850†	9.4	82.1	97.6	2	- 3	+ 4
9731	8.9	76.2	98.2	2	- 2	- 1	9791	9.3	77.6	99.7	3	0	+ 3	9851	9.0	75.6	97.2	2	+ 3	+ 2
9732†	9.1	84.0	99.7	3	+ 2	+ 5	9792	9.0	75.3	98.2	2	+ 1	- 2	9852	9.4	75.7	95.6	2	- 5	+ 1
9733	9.2	82.7	99.6	4	- 6	+ 3	9793	9.3	80.7	99.7	2	- 7	+ 1	9853	9.0	76.3	95.6	2	+ 1	0
9734	8.7	77.9	99.7	3	- 3	0	9794	8.7	75.0	99.7	4	+ 4	- 2	9854†	9.3	76.6	97.3	2	- 10	- 1
9735	8.6	77.6	99.7	2	+ 3	0	9795	8.8	82.2	98.2	2	- 1	- 3	9855	7.1	79.2	98.3	3	+ 3	- 3
9736	9.5	77.7	01.2	2	- 3	- 2	9796	8.8	73.9	99.4	4	- 1	+ 1	9856	9.2	78.7	01.2	2	- 4	+ 1
9737	7.8	80.8	01.3	2	+ 3	+ 1	9797†	8.0	75.4	99.7	4	+ 14	+ 16	9857	8.6	75.3	01.2	2	+ 2	0
9738	8.8	75.7	01.2	2	0	- 2	9798	9.0	76.5	98.2	2	+ 2	0	9858	7.5	76.5	98.3	3	+ 3	0
9739	9.2	76.6	99.7	2	- 2	0	9799	9.0	74.3	99.0	3	+ 3	+ 2	9859	9.3	80.7	97.3	2	- 1	+ 4
9740	8.8	78.7	01.2	2	+ 2	- 6	9800	9.2	75.7	98.2	2	- 6	- 6	9860	7.7	76.2	97.6	2	+ 1	- 5
9741	9.0	77.4	01.2	2	+ 5	0	9801	9.5	90.7	01.2	2	- 2	- 1	9861	8.8	77.3	01.7	3	+ 5	+ 3
9742	8.5	79.9	01.2	2	+ 4	0	9802	9.1	83.7	01.2	2	0	+ 3	9862	8.8	74.9	95.6	2	+ 5	+ 2
9743†	9.0	73.1	99.7	2	- 8	+ 1	9803	8.8	77.8	99.3	5	+ 1	- 2	9863	8.9	75.4	98.3	3	+ 5	+ 9
9744	9.0	75.5	99.6	4	+ 1	- 2	9804	8.8	75.0	01.2	2	+ 4	0	9864	8.5	82.7	02.2	2	+ 4	+ 3
9745	8.0	74.5	99.7	3	+ 4	+ 1	9805	9.0	74.8	98.2	2	+ 1	+ 1	9865	7.7	92.2	02.2	2	+ 3	+ 2
9746	9.0	74.9	98.2	2	+ 3	+ 3	9806	8.9	76.7	99.3	5	+ 1	+ 1	9866	7.2	81.9	01.2	2	+ 5	- 2
9747	9.4	80.7	99.7	3	- 5	- 3	9807	7.3	77.5	99.7	4	+ 2	+ 2	9867	9.0	82.1	95.6	2	0	- 3
9748	8.9	75.4	99.6	4	+ 4	+ 1	9808	8.0	75.3	01.2	2	0	0	9868	9.3	77.0	97.2	2	+ 8	0
9749	7.2	84.9	98.2	2	+ 2	0	9809	9.1	86.9	01.2	2	+ 1	+ 2	9869	9.4	83.7	98.3	3	- 8	+ 4
9750	7.9	75.9	99.7	2	+ 2	- 2	9810	9.0	75.3	99.7	2	0	- 1	9870	9.2	77.6	96.3	3	- 8	+ 2
9751	8.0	78.4	01.2	2	+ 2	0	9811	9.3	77.7	99.7	2	+ 5	- 3	9871	9.5	77.6	97.3	2	+ 6	0
9752	9.1	75.3	00.6	5	- 2	0	9812	9.0	76.5	98.2	2	+ 2	+ 1	9872	9.0	75.9	98.3	3	0	- 4
9753	9.0	75.0	99.2	4	+ 1	- 4	9813	6.8	78.9	01.4	3	+ 4	- 1	9873	8.2	79.0	01.2	2	+ 6	0
9754	9.2	82.1	99.3	6	- 4	0	9814	7.3	74.8	99.7	3	+ 2	- 4	9874	9.2	79.7	01.2	2	- 5	+ 1
9755	9.3	80.7	00.0	3	+ 2	+ 1	9815	9.0	79.2	99.3	5	+ 3	- 2	9875	9.5	72.5	97.3	2	- 5	- 1
9756	8.9	74.3	99.3	6	- 3	- 9	9816	9.4	94.6	01.7	3	0	+ 1	9876	9.0	75.4	98.7	3	+ 1	- 2
9757†	9.5	83.2	99.3	6	- 14	- 2	9817	9.4	89.0	99.7	2	+ 2	- 2	9877	8.0	74.3	95.3	3	+ 2	- 2
9758	8.9	75.8	99.3	6	+ 2	- 1	9818	9.1	82.1	99.3	5	+ 2	+ 2	9878	9.1	92.6	02.2	2	+ 8	+ 1
9759	9.0	79.2	01.0	3	+ 1	0	9819	9.0	73.3	98.2	2	- 2	+ 3	9879	9.4	80.7	97.3	2	0	- 2
9760	9.0	78.7	01.0	3	+ 4	+ 2	9820	9.4	75.4	01.2	2	- 1	+ 1	9880	9.3	82.7	95.6	2	+ 2	- 1
9761	8.7	75.7	99.0	5	+ 3	+ 1	9821	9.2	80.7	99.7	2	+ 1	+ 2	9881	9.2	81.7	95.6	2	- 8	+ 2
9762†	9.0	77.7	01.0	3	+ 1	- 1	9822	9.5	73.7	99.1	5	- 6	- 1	9882	8.7	78.1	98.3	3	+ 3	+ 2
9763	8.0	73.6	00.5	4	+ 5	- 6	9823	9.2	80.7	99.7	2	- 2	- 3	9883	9.2	82.2	97.6	2	- 4	- 1
9764	8.8	77.9	00.0	3	+ 3	- 2	9824	9.4	79.7	01.2	2	- 5	- 3	9884	9.4	83.7	01.2	2	- 9	- 3
9765	8.7	76.1	00.0	3	- 1	+ 1	9825	8.9	74.6	99.1	4	- 2	- 1	9885†	5.4	77.8	97.6	2	+ 4	0
9766	8.9	77.6	00.0	3	+ 2	0	9826	8.9	76.0	99.1	4	- 2	- 3	9886	9.2	80.7	97.3	2	- 1	- 3
9767	9.3	82.7	98.0	3	- 6	+ 1	9827	9.4	86.3	99.1	4	- 7	+ 2	9887	9.2	80.3	98.3	3	- 7	+ 2
9768	9.3	75.7	98.0	3	+ 7	- 2	9828	8.9	74.7	00.4	3	+ 1	+ 1	9888	8.7	91.0	01.2	2	0	- 2
9769	9.0	75.4	00.0	3	+ 1	+ 4	9829	8.2	75.5	99.7	2	+ 2	- 1	9889	9.5	82.7	01.2	2	- 9	0
9770	7.0	75.9	98.0	3	+ 3	+ 1	9830	8.7	78.9	99.7	2	+ 2	0	9890	9.5	81.7	01.2	2	- 1	0
9771	6.1	76.1	98.0	3	+ 5	+ 2	9831	7.5	81.6	99.1	4	+ 3	- 3	9891	9.2	80.7	97.3	2	- 2	+ 2
9772	9.2	84.0	99.2	4	0	+ 1	9832	7.5	81.7	99.1	4	+ 3	0	9892†	...	...	...	...	...	...
9773	7.4	74.4	99.2	4	+ 3	0	9833	9.2	78.2	99.1	5	- 4	+ 1	9893	9.4	81.3	01.2	2	- 2	0
9774	8.8	76.5	99.3	6	- 1	+ 1	9834	9.0	75.8	97.7	3	+ 3	+ 1	9894	7.6	80.2	01.7	3	+ 6	+ 3
9775	8.2	74.9	99.7	2	+ 1	+ 4	9835	7.9	75.8	96.7	3	+ 3	+ 2	9895	9.4	80.7	97.3	2	- 4	0
9776	9.1	77.6	99.3	6	- 2	0	9836	9.0	87.4	99.7	4	- 5	0	9896	8.7	78.4	98.3	3	- 3	- 2
9777	9.0	77.2	99.3	6	+ 1	+ 2	9837	9.2	73.6	99.3	5	+ 4	- 1	9897†	9.0	72.6	97.8	2	- 14	+ 6
9778	8.8	73.6	99.2	4	- 1	+ 1	9838	9.0	72.6	97.7	3	- 6	+ 6	9898	9.2	88.7	98.3	3	+ 4	- 2
9779	9.3	74.3	01.7	3	- 5	+ 3	9839	9.0	79.3	01.0	3	- 2	0	9899	9.4	76.0	96.3	3	+ 2	+ 1
9780	9.5	73.6	99.2	4	- 2	- 1	9840	9.0	79.7	01.4	3	- 2	0	9900†	...	...	...	...	...	...



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
9901	9.0	74.2	97.3	2	+ 2	- 2	9961	9.1	82.2	94.6	2	+ 2	+ 2	10021	9.4	80.7	98.5	4	- 5	+ 1
9902	9.3	80.4	01.2	2	- 2	- 3	9962	9.3	78.9	98.7	2	+ 2	- 1	10022	8.8	80.6	94.6	2	+ 3	- 2
9903†	9.4	79.7	01.2	2	- 19	+ 3	9963	9.5	73.6	96.3	3	- 4	- 3	10023	8.6	77.7	99.9	3	- 3	- 1
9904	9.3	78.7	01.2	2	- 4	- 1	9964†	9.2	75.6	95.5	1	+ 1	- 4	10024	9.0	80.0	98.6	2	+ 6	- 1
9905†	9.4	80.7	97.3	2	- 10	+ 2	9965	8.0	76.8	95.5	1	+ 3	+ 3	10025	9.2	85.4	95.9	3	- 1	- 2
9906	8.6	76.5	96.3	3	+ 5	- 2	9966	9.1	81.7	98.3	3	- 3	+ 1	10026	8.0	88.0	95.7	2	+ 8	+ 1
9907†	9.0	74.1	96.3	3	- 2	- 3	9967	9.4	75.3	94.6	2	- 2	- 3	10027	8.0	81.4	95.9	3	+ 5	- 2
9908	8.9	92.6	97.3	2	+ 3	- 1	9968	9.0	76.2	98.6	2	0	- 3	10028	9.3	72.6	94.6	2	- 7	+ 3
9909†	9.5	81.7	01.2	2	- 12	+ 4	9969	8.4	79.0	94.6	2	+ 2	- 3	10029	8.5	81.5	95.9	3	+ 3	0
9910	9.5	80.7	97.3	2	- 1	+ 3	9970	9.5	79.9	02.2	2	- 8	+ 4	10030	8.3	92.6	02.1	3	- 2	+ 2
9911†	9.4	82.7	01.2	2	- 18	- 6	9971	9.1	74.4	97.6	2	+ 2	- 1	10031	9.4	75.7	98.6	2	- 2	+ 5
9912	9.1	84.0	97.6	3	- 1	+ 4	9972	9.2	75.4	94.6	2	+ 2	0	10032	9.0	80.7	95.4	3	0	0
9913†	9.0	75.7	93.8	3	+ 1	- 4	9973	8.5	77.9	98.3	3	0	- 1	10033	9.4	79.6	97.0	5	- 7	+ 5
9914	9.5	82.2	01.2	2	+ 2	+ 1	9974	9.2	90.7	97.6	2	- 2	+ 2	10034	9.1	86.7	96.9	4	- 3	- 3
9915†	9.2	81.7	98.7	4	- 13	+ 1	9975	8.8	81.7	98.3	3	+ 5	- 2	10035	9.2	83.7	99.7	3	- 2	- 4
9916	9.1	77.0	98.7	3	+ 1	0	9976	9.0	81.4	98.3	3	+ 4	- 1	10036	9.0	72.6	96.2	2	- 6	0
9917	9.3	81.3	96.3	3	- 6	0	9977	9.1	74.6	95.7	2	0	- 1	10037	9.5	82.8	99.7	3	+ 2	+ 2
9918	9.0	75.7	01.2	2	+ 6	- 2	9978	7.8	73.4	95.7	2	+ 7	+ 4	10038	8.7	79.2	96.9	4	- 1	+ 4
9919	9.2	82.1	98.5	5	0	0	9979	8.8	74.8	97.6	2	- 1	0	10039	8.0	86.3	95.1	2	+ 2	- 2
9920	9.3	86.7	96.3	3	- 2	0	9980	9.4	86.7	98.6	2	- 6	+ 2	10040†	9.5	93.5	97.7	2	+ 31	0
9921†	5.2	80.6	99.3	3	+ 7	+ 2	9981	9.0	78.0	98.6	2	0	- 3	10041	9.5	93.3	96.0	3	+ 5	- 3
9922	9.5	81.7	01.9	4	- 6	+ 1	9982	9.3	84.3	98.6	2	- 1	- 2	10042	9.0	80.2	98.6	2	- 2	+ 2
9923	8.9	77.8	96.6	4	+ 1	+ 2	9983	8.7	81.5	99.9	3	+ 1	0	10043	9.3	77.8	95.2	2	- 2	+ 2
9924†	...	...	...	...	...	...	9984	8.5	78.2	98.6	2	+ 4	+ 2	10044	8.8	82.0	98.6	2	+ 5	+ 2
9925†	9.5	82.2	04.7	2	- 5	0	9985	9.3	76.9	94.6	2	+ 6	- 2	10045	9.5	72.6	95.2	2	0	0
9926	8.9	81.5	97.6	3	+ 5	- 1	9986	9.5	78.3	98.3	3	- 8	+ 3	10046	9.5	80.7	98.5	2	- 9	+ 2
9927	9.5	73.6	98.5	5	+ 2	- 3	9987	9.2	78.3	98.3	3	+ 1	- 1	10047	8.3	80.8	95.7	4	0	+ 1
9928	7.0	76.9	96.3	3	+ 4	0	9988	9.5	81.7	98.3	3	- 8	0	10048	8.9	80.7	96.0	3	0	+ 2
9929	7.5	74.0	96.6	3	+ 4	0	9989	9.1	84.7	95.7	2	- 5	+ 4	10049†	3.0	Fund.	96.2	2	+ 5	- 1
9930	9.2	77.1	96.3	3	+ 2	- 2	9990	9.2	81.7	98.3	3	- 1	- 1	10050	9.4	78.7	95.2	2	+ 4	0
9931	9.1	74.3	97.6	3	+ 7	0	9991	9.2	76.7	98.3	3	- 2	- 1	10051	9.0	80.3	98.6	2	+ 2	+ 2
9932	9.4	84.7	98.6	4	- 3	0	9992	8.8	79.5	02.2	2	- 3	+ 1	10052	6.7	78.7	96.2	2	+ 6	0
9933	9.0	77.9	96.3	3	+ 4	- 2	9993	9.0	73.7	94.6	2	- 3	0	10053	8.9	82.0	96.2	2	0	- 2
9934	9.4	80.7	96.6	3	+ 2	- 3	9994	9.4	79.1	94.6	2	- 8	0	10054	8.9	78.3	95.2	2	+ 1	- 2
9935	8.8	78.4	97.6	3	+ 2	- 2	9995	9.0	77.9	95.7	2	0	+ 1	10055	8.3	78.7	02.2	2	- 3	0
9936	9.0	78.9	98.5	4	0	0	9996	9.1	76.7	94.6	2	- 7	- 2	10056	8.7	82.2	96.2	2	- 3	0
9937	8.7	78.9	97.9	4	+ 3	- 1	9997	9.5	73.6	98.6	2	+ 1	0	10057†	8.3	82.2	98.6	2	+ 8	- 1
9938	9.3	83.0	99.3	3	- 5	+ 1	9998	8.5	84.4	02.2	2	0	+ 1	10058	9.0	81.7	95.0	3	+ 4	+ 3
9939	9.0	78.2	97.6	2	0	- 4	9999†	...	...	...	...	...	...	10059	8.9	92.7	95.0	3	- 5	0
9940	9.0	75.1	96.6	3	- 1	0	10000	9.0	80.7	98.6	2	+ 2	0	10060	9.1	82.7	95.0	3	0	0
9941	9.1	82.7	96.6	3	+ 5	- 1	10001	8.9	80.3	94.6	2	+ 1	- 1	10061	8.9	77.7	95.2	2	+ 2	+ 2
9942	9.3	76.7	95.7	2	- 6	+ 1	10002†	9.5	79.7	01.8	1	0	+ 1	10062	6.5	79.1	95.1	4	+ 6	+ 1
9943	9.0	76.1	95.7	2	+ 1	0	10003	9.0	80.2	94.6	2	0	0	10063	9.0	75.1	95.0	3	- 3	+ 1
9944	9.0	79.2	97.6	2	+ 2	+ 2	10004†	8.5	74.3	97.1	6	+ 2	+ 7	10064	9.5	72.6	95.2	2	0	- 3
9945	8.5	74.6	98.3	3	+ 3	- 1	10005	8.5	75.0	98.5	4	0	- 2	10065	9.4	80.0	98.6	2	- 6	- 1
9946	8.9	75.7	98.7	2	- 1	0	10006	9.0	78.7	94.6	2	0	- 3	10066	8.0	79.5	95.2	2	0	- 1
9947	9.3	77.0	97.6	2	0	0	10007	9.3	74.6	98.5	4	- 1	+ 1	10067	7.7	80.7	95.1	4	+ 1	0
9948	8.4	77.5	98.3	3	+ 2	+ 1	10008	8.7	81.7	02.2	2	- 1	+ 1	10068	8.8	79.2	02.2	2	0	+ 1
9949	8.3	74.9	98.3	3	+ 3	- 4	10009	9.0	79.5	94.6	2	0	+ 1	10069	6.7	77.2	97.3	6	+ 6	+ 2
9950	8.2	85.4	97.6	2	+ 3	0	10010	8.2	76.4	95.7	2	+ 3	+ 3	10070	9.0	72.6	95.2	2	- 2	- 3
9951	9.1	86.4	98.3	3	- 3	0	10011	9.1	83.2	94.6	2	+ 4	+ 2	10071	9.5	86.4	98.6	2	- 8	0
9952	9.3	76.3	95.7	2	- 2	+ 2	10012†	8.5	80.5	98.6	2	+ 2	+ 1	10072	8.0	75.7	99.9	3	+ 3	+ 1
9953	9.0	88.0	02.2	2	- 1	- 2	10013	9.2	85.0	98.5	4	- 6	+ 1	10073	9.5	72.6	95.2	2	+ 4	+ 8
9954	9.3	77.3	95.6	3	+ 1	- 4	10014	7.1	80.2	98.6	2	+ 8	- 2	10074†	8.2	81.7	95.1	4	+ 7	+ 2
9955	8.5	79.1	98.3	3	- 1	- 1	10015	9.0	74.9	98.5	4	0	- 1	10075	8.9	77.4	98.6	2	0	- 3
9956	7.5	77.9	98.3	3	+ 4	- 1	10016	9.2	82.9	95.7	2	0	0	10076	8.8	92.6	95.0	3	+ 2	- 2
9957	9.2	78.0	97.6	2	- 2	- 2	10017	9.3	80.5	94.6	2	- 4	+ 2	10077	8.9	77.0	97.3	6	- 7	- 4
9958	9.2	79.4	98.6	2	- 6	0	10018	9.5	80.4	94.6	2	- 6	- 2	10078	9.2	79.9	95.0	3	0	- 1
9959	9.0	77.7	98.6	2	0	+ 2	10019	9.0	72.6	95.7	2	- 3	0	10079	8.8	79.0	95.0	3	+ 3	0
9960	8.6	76.4	98.3	3	- 1	0	10020	8.7	79.3	94.6	2	- 1	+ 3	10080†	9.0	76.2	95.1	4	- 5	- 11



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
10081	8.8	73.0	95.0	3	- 3	- 7	10141	9.0	91.9	96.3	3	- 1	- 2	10201†	9.0	77.7	01.3	2	- 2	+ 4
10082	9.1	77.3	98.6	2	- 3	- 3	10142	8.8	75.0	93.7	2	0	0	10202	9.3	80.7	98.0	3	- 5	- 2
10083	9.2	79.7	95.1	4	- 4	- 1	10143	9.4	82.2	98.8	2	- 2	- 2	10203	9.4	79.7	95.2	2	+ 2	+ 2
10084	9.1	77.2	02.2	2	- 4	- 3	10144	8.0	73.4	95.1	4	+ 5	0	10204	9.5	73.6	95.2	2	- 1	0
10085	9.1	75.7	98.6	2	- 3	+ 1	10145	9.3	84.0	96.8	5	- 8	- 2	10205	9.5	80.7	95.4	3	- 7	- 1
10086	9.0	75.9	94.3	3	- 1	- 1	10146	8.3	76.0	98.8	2	+ 3	- 3	10206	9.4	74.7	98.0	4	+ 9	+ 5
10087	9.0	74.4	95.8	5	+ 1	- 1	10147	9.2	82.7	96.8	5	0	0	10207	9.3	75.7	01.3	2	0	- 1
10088	9.1	74.4	95.2	2	+ 2	0	10148	8.1	76.3	96.7	4	+ 4	- 1	10208	9.4	74.7	99.4	3	- 2	0
10089	8.4	75.9	93.7	2	- 2	- 8	10149†	8.9	79.4	98.8	2	+ 1	- 1	10209	9.4	83.1	01.1	3	- 2	+ 2
10090	8.9	92.6	95.2	2	+ 3	- 1	10150	7.5	85.0	96.8	5	+ 3	+ 2	10210	9.3	86.7	95.2	2	- 4	+ 1
10091	8.9	81.3	94.3	3	+ 3	- 2	10151	8.1	81.3	01.3	2	+ 2	0	10211	9.3	79.7	98.0	3	- 3	- 1
10092	9.2	79.7	94.3	3	- 4	+ 3	10152	8.5	81.4	96.8	5	+ 1	0	10212	7.7	80.3	98.0	3	+ 3	0
10093	9.0	74.8	93.7	2	- 2	- 1	10153	9.1	78.6	94.4	3	+ 6	+ 1	10213	9.4	76.7	98.4	4	- 4	+ 2
10094	8.3	85.7	93.7	2	+ 4	0	10154	8.5	84.2	95.1	4	+ 4	0	10214	9.5	85.8	98.0	3	- 4	+ 1
10095	8.8	75.7	97.7	3	+ 1	+ 1	10155	9.3	75.6	95.2	2	+ 2	0	10215	9.1	83.7	95.2	2	0	0
10096	9.1	83.7	96.6	4	+ 4	+ 1	10156	9.3	80.7	93.7	2	0	+ 3	10216	9.4	81.7	01.1	3	- 2	+ 3
10097	9.2	76.6	01.7	3	- 1	+ 1	10157	9.0	81.3	95.1	4	0	- 1	10217	9.1	79.7	99.4	3	+ 1	+ 3
10098	9.5	82.2	95.3	3	+ 1	+ 2	10158	8.9	81.4	96.8	5	+ 3	- 1	10218	9.3	80.4	98.4	4	- 6	0
10099	9.0	75.5	96.6	4	+ 1	- 1	10159	8.3	75.7	95.1	5	+ 3	+ 1	10219	9.3	75.7	99.2	4	+ 1	- 1
10100	8.8	74.4	97.7	3	+ 2	- 2	10160	9.0	77.1	98.8	2	- 2	- 3	10220	8.7	83.2	98.0	3	0	+ 2
10101	8.8	76.7	01.7	3	- 1	+ 2	10161	9.5	77.9	98.8	2	- 4	+ 2	10221	9.3	81.0	99.4	3	+ 1	+ 2
10102	7.6	77.8	96.6	4	+ 4	+ 1	10162	9.2	89.9	95.1	4	- 2	+ 1	10222	9.2	80.7	98.4	4	+ 1	- 2
10103	7.0	76.0	96.6	4	+ 1	+ 1	10163	9.0	78.2	95.1	4	+ 2	+ 2	10223	8.8	80.9	99.6	3	+ 1	0
10104†	9.0	89.2	94.7	4	- 4	0	10164	9.2	78.0	95.1	4	- 4	+ 1	10224	9.3	78.6	00.7	3	+ 6	+ 7
10105	9.3	80.7	93.7	2	- 3	+ 2	10165	9.1	84.4	98.8	2	+ 2	+ 1	10225	9.3	77.9	99.4	3	0	+ 3
10106	9.5	80.7	93.7	2	- 9	+ 1	10166	9.0	78.1	96.7	4	- 1	+ 2	10226	9.2	82.7	96.7	4	0	- 2
10107	9.6	74.4	95.2	2	- 8	+ 2	10167	8.6	80.0	98.8	4	- 1	+ 1	10227	9.0	86.3	98.0	3	+ 3	+ 1
10108	7.3	78.7	96.6	4	+ 6	- 2	10168	9.1	84.7	99.4	3	+ 3	+ 1	10228	9.0	77.1	98.0	3	+ 4	0
10109	9.4	77.6	95.2	2	0	+ 2	10169	9.3	78.7	95.2	2	- 6	- 3	10229	9.5	72.6	00.7	3	- 5	+ 2
10110	9.1	79.1	95.2	2	+ 2	- 3	10170	9.2	85.2	98.8	2	+ 3	0	10230	8.8	78.2	98.4	3	+ 1	- 2
10111†	8.2	78.2	95.2	2	+ 3	- 2	10171	9.2	78.9	01.3	2	- 6	0	10231	9.1	86.4	98.7	4	0	+ 1
10112	8.7	78.5	96.6	4	- 1	- 1	10172	9.2	80.7	93.7	2	- 3	- 3	10232	9.0	74.6	95.2	2	+ 3	- 2
10113	8.5	75.8	93.7	2	+ 2	0	10173	9.1	83.7	98.8	2	+ 2	- 3	10233	9.5	76.6	00.7	4	- 6	- 1
10114	9.0	78.7	94.3	3	- 4	+ 1	10174	9.0	78.7	96.8	5	- 2	0	10234†	5.2	77.1	99.0	3	+ 5	+ 2
10115	9.0	76.1	95.2	2	+ 6	+ 2	10175	8.0	78.1	93.7	2	+ 4	0	10235	8.5	78.7	98.2	2	- 2	0
10116	9.3	78.9	94.3	3	- 2	- 1	10176	9.5	76.6	98.8	4	+ 4	+ 2	10236†	9.2	90.7	95.2	2	- 10	0
10117	8.8	78.4	97.5	3	- 1	- 6	10177	9.3	75.1	93.7	2	- 2	+ 4	10237	8.5	76.6	99.6	3	+ 4	+ 2
10118	8.7	80.9	96.3	3	+ 1	- 3	10178†	7.9	77.4	01.3	2	- 2	+ 2	10238	9.1	73.4	95.2	2	0	0
10119	9.2	83.7	96.6	4	- 3	+ 2	10179	8.7	78.3	98.0	3	+ 3	- 1	10239	9.2	81.7	99.2	6	+ 3	- 3
10120	9.0	77.4	95.2	2	+ 6	- 2	10180	9.3	81.7	98.8	2	- 6	+ 1	10240	7.4	84.7	00.7	2	0	+ 2
10121	8.8	79.2	96.6	4	+ 2	0	10181	8.4	77.9	98.0	3	- 1	- 3	10241†	7.6	76.0	98.2	2	0	- 3
10122	8.3	76.7	95.2	2	- 1	0	10182	8.4	75.7	94.4	3	+ 3	0	10242	8.7	75.1	99.1	6	+ 1	0
10123	9.2	76.6	95.2	2	- 2	+ 1	10183	9.0	77.0	95.2	2	- 2	- 1	10243	9.0	83.2	99.9	5	- 1	+ 1
10124	9.4	84.7	95.2	2	- 2	0	10184	7.2	75.3	95.2	2	+ 2	- 6	10244	9.5	72.6	00.7	3	- 5	+ 3
10125	9.5	75.7	93.7	2	0	+ 3	10185	6.9	77.2	98.8	2	+ 5	0	10245	8.8	75.5	99.9	5	- 2	0
10126	9.4	80.7	93.7	2	- 1	- 1	10186	8.1	76.0	98.0	3	+ 2	+ 1	10246	8.4	78.0	00.7	3	+ 5	0
10127	6.9	75.3	94.4	4	+ 4	+ 3	10187	9.0	77.7	95.2	2	+ 3	- 2	10247	9.3	80.5	98.2	2	- 4	+ 1
10128	5.9	74.8	98.8	2	+ 4	0	10188	7.7	73.7	95.2	2	- 2	0	10248	9.2	83.7	01.5	5	- 6	+ 3
10129†	9.0	82.7	98.8	2	- 1	- 1	10189	9.4	80.7	93.7	2	+ 1	0	10249	9.0	75.5	98.2	2	+ 1	0
10130	8.6	78.6	96.6	4	0	0	10190†	8.0	75.7	01.3	2	- 2	+ 2	10250	8.9	77.7	99.5	6	0	+ 3
10131	9.3	78.9	97.4	3	- 4	0	10191	8.8	76.1	95.2	2	- 2	0	10251†	8.9	77.3	98.7	9	0	+ 3
10132	8.2	78.9	96.6	4	0	0	10192	7.5	78.3	98.8	2	+ 4	- 2	10252	8.9	77.9	99.1	6	0	- 2
10133	8.8	80.3	95.2	2	0	0	10193	9.0	75.2	93.7	2	0	+ 1	10253	7.0	74.6	98.2	4	+ 4	- 1
10134†	8.1	73.3	98.8	2	0	- 1	10194	9.3	78.3	95.0	3	- 2	0	10254	9.3	74.9	00.7	3	+ 1	- 2
10135	9.2	82.0	96.6	4	0	- 2	10195	9.0	76.4	98.0	3	- 2	+ 2	10255	9.1	81.7	99.9	5	- 5	- 3
10136	9.5	82.7	95.2	2	- 7	0	10196†	9.5	72.6	95.2	2	- 12	+ 6	10256†	9.2	81.7	99.1	6	- 13	0
10137	8.7	79.0	95.2	2	- 2	- 1	10197	8.5	78.0	98.8	2	+ 3	- 2	10257	7.7	79.5	98.1	7	+ 3	+ 3
10138	9.0	79.5	94.3	3	- 3	+ 1	10198	9.0	81.9	98.8	2	0	0	10258	9.0	77.7	00.7	3	+ 3	+ 2
10139	9.0	91.3	96.6	4	- 1	- 3	10199	7.5	77.7	98.0	3	+ 5	0	10259	9.1	80.9	99.1	6	+ 5	0
10140	8.6	78.5	93.7	2	+ 4	- 1	10200	9.3	76.6	95.2	2	- 3	- 1	10260	9.1	77.7	00.7	3	+ 1	0



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
10261	9.1	79.3	98.2	4	+ 3	- 2	10321	9.4	77.1	99.9	5	- 3	+ 7	10381	9.3	73.6	00.5	4	+ 3	- 6
10262	9.2	83.0	99.1	6	+ 1	- 1	10322	9.2	80.6	01.7	4	0	0	10382	8.9	74.6	00.7	3	+ 7	- 1
10263†	9.4	81.8	99.7	4	- 17	+ 2	10323	9.0	81.3	01.7	4	- 1	+ 2	10383	8.9	75.7	00.5	5	- 3	- 2
10264	9.2	85.0	99.1	6	+ 2	- 4	10324	9.0	82.6	01.7	4	- 2	- 1	10384†	9.4	83.0	00.7	4	- 17	- 2
10265	9.0	76.2	99.1	6	- 1	- 1	10325	9.4	85.7	00.4	5	0	0	10385	8.9	74.3	01.7	4	+ 4	+ 2
10266	9.2	92.6	97.0	3	- 3	+ 2	10326†	5.9	74.6	00.0	6	+ 7	0	10386	9.1	75.0	00.7	4	+ 2	+ 1
10267	9.5	79.3	99.1	6	0	+ 3	10327	9.0	72.6	98.2	2	- 9	- 2	10387	8.7	75.4	01.6	2	- 1	0
10268	8.0	76.7	01.7	4	+ 1	- 2	10328	9.5	82.7	00.0	6	- 9	- 1	10388	8.7	82.7	98.2	2	- 2	0
10269	8.0	77.7	99.4	3	+ 2	+ 3	10329	9.4	74.7	00.0	6	+ 1	- 3	10389	8.9	83.1	00.4	5	+ 2	+ 1
10270	9.0	76.6	99.4	3	- 3	+ 1	10330	8.7	78.3	00.7	3	- 2	- 1	10390	9.0	76.9	98.2	2	- .1	- 3
10271	8.4	77.2	01.7	4	- 2	- 3	10331	7.0	75.9	99.9	5	+ 2	- 1	10391	8.7	75.8	00.7	3	+ 3	- 1
10272	9.0	78.3	99.1	5	+ 1	- 1	10332	9.3	90.7	00.7	3	- 7	+ 1	10392	8.7	76.2	00.7	3	0	- 2
10273	9.3	79.7	01.7	4	- 5	0	10333	8.1	82.2	01.7	4	+ 3	+ 3	10393	9.0	75.7	00.4	5	- 4	+ 1
10274	9.0	85.0	99.4	3	+ 1	+ 1	10334	9.3	76.6	00.7	3	- 2	+ 4	10394	9.0	73.7	98.2	2	+ 1	- 1
10275	9.3	74.7	00.7	4	+ 1	0	10335	8.8	78.2	01.7	4	+ 6	0	10395	9.0	75.7	00.5	4	- 1	- 3
10276	9.5	73.6	98.2	2	- 5	- 2	10336	9.1	83.7	98.2	2	+ 2	- 1	10396	9.3	75.4	00.5	4	0	+ 1
10277	9.4	80.7	01.7	4	- 4	- 2	10337	9.1	90.7	00.0	6	- 4	+ 2	10397	8.9	75.2	00.5	5	+ 1	0
10278	9.3	78.4	99.4	3	- 1	- 3	10338	8.8	74.7	00.0	6	+ 1	- 2	10398†	9.4	76.6	00.7	4	- 14	+ 3
10279	7.5	78.9	01.7	4	+ 9	+ 1	10339	9.0	74.0	98.2	2	0	- 1	10399	9.0	91.4	98.2	2	0	+ 1
10280	8.7	74.4	00.7	3	+ 1	0	10340	9.0	81.9	01.7	4	- 3	- 2	10400	9.0	88.6	98.2	2	0	- 1
10281	9.0	75.4	00.7	3	+ 5	0	10341	9.5	86.7	01.5	5	- 1	- 4	10401	8.7	83.3	98.2	2	+ 4	- 2
10282	9.0	78.5	01.7	4	+ 1	- 1	10342	9.3	80.7	01.7	4	- 9	- 3	10402	9.0	78.1	00.5	4	0	- 1
10283	9.1	74.7	01.7	4	+ 6	+ 3	10343	9.2	80.1	01.7	4	- 1	- 1	10403	9.1	84.7	00.7	3	+ 4	0
10284	9.3	80.7	01.7	4	+ 4	0	10344	9.1	84.7	00.7	3	+ 4	- 2	10404	9.1	77.0	98.2	2	- 6	+ 2
10285	9.0	72.6	01.7	4	- 2	0	10345	9.3	82.7	01.7	4	- 2	0	10405	9.3	82.7	00.5	4	+ 1	0
10286†	9.4	81.7	99.4	3	- 13	+ 3	10346	9.2	80.2	01.7	4	0	- 2	10406	8.4	80.1	98.2	2	+ 1	- 3
10287	7.1	80.0	01.7	4	+ 2	+ 1	10347	9.5	73.7	98.2	2	- 1	+ 2	10407	8.6	76.2	01.7	4	+ 1	- 1
10288	9.4	80.7	01.7	4	- 5	0	10348	9.4	80.0	01.7	4	+ 1	+ 2	10408	8.4	78.7	01.6	2	0	+ 6
10289	8.9	81.7	01.5	5	+ 1	+ 1	10349	9.4	73.9	98.2	2	- 4	0	10409†	9.5	74.7	99.4	3	+ 70	- 22
10290	9.0	73.8	99.4	3	- 1	0	10350	9.0	75.7	00.8	7	- 1	- 2	10410	9.2	78.4	99.9	4	0	+ 3
10291	8.9	80.6	01.7	4	+ 2	- 3	10351	9.2	81.7	98.2	2	- 4	0	10411	9.0	74.6	00.9	4	+ 6	+ 4
10292	8.4	78.9	00.9	5	+ 3	+ 4	10352	8.2	76.9	98.2	2	+ 3	- 1	10412	9.1	85.0	00.5	4	- 1	0
10293	9.3	83.5	01.7	4	- 3	- 1	10353	6.9	76.0	00.7	4	+ 5	+ 1	10413	9.5	73.6	01.7	5	+ 3	- 8
10294	9.2	90.7	01.7	4	+ 2	- 2	10354	9.5	84.7	98.2	2	- 9	+ 2	10414	8.5	75.3	99.7	3	+ 2	- 2
10295	8.8	78.7	00.7	3	+ 4	- 4	10355	9.3	75.9	00.7	3	- 2	- 2	10415	8.5	75.8	99.9	9	0	+ 2
10296	9.5	72.6	01.7	4	- 3	- 7	10356	9.2	86.0	01.7	4	+ 6	+ 5	10416	8.8	73.7	99.0	3	- 2	0
10297	8.9	74.4	99.1	5	- 1	+ 1	10357	8.9	79.7	98.2	2	+ 4	+ 2	10417	8.9	84.2	01.3	3	0	+ 4
10298	7.8	77.1	97.4	3	+ 5	+ 3	10358	9.1	82.2	01.7	4	+ 1	+ 1	10418†	6.2	74.9	00.1	6	+ 13	- 3
10299	8.2	78.3	99.3	3	+ 5	- 1	10359	8.6	75.3	00.4	5	+ 5	- 1	10419	9.5	78.7	99.0	3	- 1	- 1
10300	9.1	81.7	99.4	4	- 1	- 1	10360†	9.3	91.7	98.4	4	- 14	+ 2	10420	9.2	75.9	01.3	3	- 3	- 2
10301	9.4	76.9	99.4	4	- 2	+ 3	10361	8.0	74.3	98.2	2	+ 1	0	10421	8.6	74.2	97.4	3	0	+ 3
10302	8.8	75.1	96.6	3	+ 2	+ 1	10362	9.0	76.7	00.4	5	+ 6	0	10422	9.2	73.6	99.9	5	- 3	+ 1
10303	8.5	78.0	00.9	5	+ 3	- 2	10363	9.0	95.6	00.4	5	+ 7	- 1	10423†	7.1	74.1	98.5	4	+ 2	+ 19
10304	9.0	77.9	99.1	5	+ 2	0	10364	9.1	79.6	00.4	5	- 3	- 2	10424	7.7	73.7	98.5	4	+ 6	- 1
10305	9.5	73.7	99.1	5	- 1	+ 1	10365	9.3	84.2	99.7	3	+ 6	+ 1	10425	8.6	77.7	98.2	2	- 1	- 1
10306	9.5	82.2	97.4	3	- 2	0	10366	9.1	78.5	00.4	5	- 4	- 1	10426	8.4	75.5	97.9	5	- 2	- 3
10307	8.6	78.0	99.4	4	+ 1	+ 1	10367	9.0	74.9	01.7	4	+ 1	+ 6	10427	9.5	75.2	01.6	2	- 8	+ 4
10308	9.4	78.1	01.7	4	- 6	+ 3	10368†	9.4	82.7	00.4	5	- 2	- 3	10428	9.3	74.7	98.2	2	- 3	- 1
10309	8.2	80.3	01.7	4	- 1	0	10369	9.2	88.7	00.4	5	- 3	+ 1	10429	9.3	84.2	98.5	4	- 4	+ 5
10310	8.7	79.3	01.7	4	+ 1	0	10370†	...	...	...	...	...	...	10430	9.1	84.7	99.2	6	+ 3	0
10311†	7.2	74.1	97.4	3	+ 10	+ 3	10371	9.5	74.6	00.4	5	- 6	+ 9	10431	9.3	79.7	99.9	6	- 4	- 4
10312	7.7	75.4	01.7	4	- 1	0	10372†	9.2	74.7	00.5	4	- 2	- 9	10432	9.1	74.6	99.9	6	+ 2	+ 3
10313	9.3	75.7	99.4	4	0	- 2	10373	9.1	78.7	98.2	2	- 6	- 8	10433	9.1	82.7	01.7	5	0	- 2
10314	9.5	78.7	97.4	3	- 3	- 7	10374	9.5	80.7	00.5	4	- 9	- 2	10434	9.0	92.6	98.2	2	- 2	0
10315	8.7	79.6	01.7	4	+ 5	+ 2	10375	9.4	76.0	00.7	3	- 1	- 3	10435	9.2	73.7	99.9	6	+ 1	+ 1
10316	7.8	79.7	99.4	3	+ 2	+ 4	10376	8.7	79.4	00.5	4	+ 7	- 2	10436	9.5	84.7	01.6	2	- 9	+ 2
10317	9.1	85.4	99.6	4	- 3	+ 1	10377	8.3	74.7	99.7	3	+ 1	+ 2	10437	9.4	80.7	99.9	5	- 9	0
10318†	8.8	95.6	00.7	3	+ 5	- 4	10378	9.5	73.7	00.4	5	+ 4	- 2	10438	7.4	75.3	98.2	2	0	- 1
10319	8.9	78.3	99.4	3	+ 3	0	10379	9.3	76.6	00.5	4	0	+ 2	10439	9.5	73.6	99.9	6	+ 2	- 2
10320	7.3	74.3	98.2	2	+ 4	+ 3	10380	9.1	72.6	00.7	3	+ 1	+ 3	10440	9.4	77.6	00.0	3	- 9	- 1



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
10441	8.9	75.2	95.7	2	- 1	+ 1	10501	9.4	78.7	98.5	5	- 1	+ 1	10561	9.2	74.0	96.7	2	- 3	- 2
10442	8.6	78.3	96.7	2	0	+ 1	10502	9.3	79.8	99.2	4	- 2	+ 4	10562	9.0	77.4	01.1	3	+ 2	+ 1
10443	9.4	76.5	00.0	3	- 1	- 1	10503	7.7	76.6	99.1	5	+ 4	+ 3	10563	9.0	75.4	99.5	3	+ 3	0
10444†	7.0	74.9	96.7	2	+ 8	- 18	10504	9.4	85.5	99.4	4	- 7	- 3	10564	7.5	79.2	97.7	2	+ 5	- 1
10445	8.3	79.9	00.1	3	+ 1	- 1	10505	8.6	80.4	99.2	4	+ 2	0	10565	9.5	73.6	98.0	3	0	- 4
10446	9.4	75.6	96.4	3	+ 2	- 4	10506	8.8	76.7	99.8	4	+ 1	+ 2	10566	9.0	74.7	99.5	3	- 1	- 1
10447†	...	...	...	...	...	...	10507	9.2	84.7	99.2	4	+ 4	- 2	10567†	9.4	84.8	97.7	2	- 10	+ 2
10448	8.1	74.7	98.1	2	+ 2	- 2	10508	9.4	80.7	01.7	5	- 2	+ 1	10568	9.1	84.7	97.7	2	0	0
10449	9.1	83.7	96.7	2	+ 1	+ 2	10509	8.5	90.6	96.7	2	+ 1	- 5	10569	9.1	84.4	97.7	2	- 3	- 2
10450	9.4	85.4	96.7	2	- 4	+ 1	10510	9.1	85.7	96.7	2	+ 4	+ 2	10570	8.7	74.2	99.5	3	+ 3	0
10451	8.0	75.2	95.7	2	- 1	0	10511	9.2	86.2	99.2	4	0	+ 2	10571	9.0	76.0	99.0	4	- 2	0
10452	8.9	74.0	99.4	4	- 3	+ 5	10512	9.2	83.7	99.2	4	- 7	- 2	10572	8.7	76.9	98.0	3	0	0
10453	8.9	74.9	96.4	3	+ 4	+ 3	10513	8.7	79.2	96.7	2	0	+ 4	10573	9.3	80.7	01.1	3	- 5	+ 2
10454	8.4	75.5	95.7	2	+ 9	+ 6	10514	8.9	77.2	96.7	2	+ 2	0	10574	9.0	79.7	01.1	3	- 1	- 1
10455	9.3	80.7	99.7	3	+ 3	0	10515	9.0	79.4	99.5	3	+ 3	+ 1	10575	8.8	82.0	98.0	3	0	+ 1
10456	8.7	73.3	98.2	2	+ 5	- 2	10516	9.0	85.2	99.1	5	0	- 1	10576	8.7	92.6	01.6	2	0	- 2
10457	8.5	75.0	97.4	3	+ 2	+ 4	10517†	7.5	77.0	99.4	4	+ 6	0	10577†	8.2	77.2	01.1	3	- 1	- 1
10458	9.5	80.7	99.7	3	- 2	- 3	10518	8.9	78.7	99.2	4	0	- 1	10578	9.0	74.6	99.5	3	- 2	- 2
10459	8.3	77.7	98.2	2	0	- 2	10519	9.0	78.6	99.2	4	+ 2	- 1	10579	8.3	75.9	97.0	3	+ 6	+ 2
10460	9.4	76.7	98.2	2	- 2	+ 2	10520	8.5	81.1	99.4	4	- 2	+ 1	10580	9.2	90.7	97.7	2	- 7	+ 3
10461†	9.4	81.7	98.6	1	- 11	- 2	10521	7.0	74.6	99.0	4	+ 2	- 6	10581	9.5	73.7	99.5	3	- 5	- 3
10462	8.8	77.9	98.2	2	+ 1	- 2	10522	9.2	80.7	99.2	4	- 4	- 2	10582	8.0	81.7	98.3	2	+ 2	- 6
10463	9.0	78.0	98.2	2	- 2	0	10523	9.0	73.7	01.6	2	0	0	10583	8.8	84.0	98.3	2	- 1	0
10464	9.3	85.8	95.7	2	+ 2	- 3	10524	9.3	79.8	01.1	3	- 5	+ 2	10584	8.2	75.4	98.3	2	+ 5	+ 3
10465	7.0	77.6	99.7	3	+ 8	0	10525	9.1	82.5	99.2	4	- 1	- 1	10585	9.0	73.6	97.7	2	+ 6	- 5
10466	9.1	82.5	00.0	3	- 4	0	10526	9.1	77.0	99.2	4	0	0	10586	8.6	77.4	97.7	2	+ 3	+ 2
10467	7.0	73.2	95.7	2	0	+ 2	10527	8.9	73.6	99.5	3	0	0	10587†	...	...	...	...	...	...
10468	8.0	76.3	99.7	3	+ 3	- 3	10528	8.5	80.0	99.5	3	0	- 2	10588	8.8	81.7	97.7	2	+ 3	+ 2
10469†	9.5	80.7	99.7	3	- 12	+ 3	10529	9.4	84.7	99.5	3	+ 1	0	10589	8.6	76.8	01.1	3	+ 1	0
10470	9.4	80.4	99.7	3	0	+ 2	10530	9.0	79.1	01.1	3	+ 1	- 1	10590	9.1	88.7	01.1	3	- 5	- 3
10471	9.0	85.0	99.7	3	0	0	10531	9.0	73.2	01.6	2	- 1	+ 2	10591	8.9	78.3	97.7	2	0	0
10472	9.4	75.7	00.0	3	+ 2	0	10532	8.7	81.1	99.5	3	+ 9	- 1	10592	9.1	84.6	96.7	2	- 9	0
10473	9.2	77.9	99.7	3	- 4	+ 1	10533	7.3	75.4	99.5	3	- 1	- 1	10593	9.2	79.7	99.5	3	- 1	+ 3
10474	8.2	80.4	99.7	3	+ 5	+ 1	10534	8.4	74.7	01.1	3	+ 2	+ 2	10594	9.2	75.2	96.7	2	+ 1	- 2
10475	8.5	74.2	98.2	2	+ 2	0	10535	9.5	73.7	99.5	3	+ 4	+ 1	10595†	6.9	78.7	01.1	3	+ 3	+ 3
10476	8.8	74.3	96.7	2	- 6	- 8	10536	8.0	75.2	97.0	3	+ 3	0	10596	9.1	75.1	96.7	2	+ 2	0
10477	9.4	83.1	00.0	3	- 4	- 5	10537	9.5	84.2	03.8	2	- 8	0	10597	9.2	74.9	95.4	3	- 1	- 3
10478†	9.4	85.7	00.7	2	- 18	+ 4	10538	9.1	80.5	98.1	2	- 3	+ 3	10598	8.5	73.9	97.7	2	0	0
10479	9.2	80.0	95.7	2	- 6	0	10539	9.5	78.2	01.1	3	+ 1	+ 2	10599	9.2	80.7	97.7	2	- 2	0
10480	9.2	82.7	99.6	3	+ 5	+ 3	10540	9.1	85.2	97.7	2	+ 2	+ 1	10600	9.2	74.2	99.5	3	+ 7	- 2
10481	9.2	77.0	99.7	3	0	- 1	10541	9.0	90.7	99.5	3	- 3	- 2	10601	8.1	79.0	01.1	3	+ 1	0
10482	9.5	72.7	98.2	2	- 4	0	10542	8.5	78.3	97.7	2	+ 2	0	10602	8.9	84.7	01.1	3	+ 6	- 5
10483	9.2	84.4	00.0	3	- 1	+ 1	10543	8.9	78.1	98.1	2	+ 1	+ 1	10603	9.0	73.7	98.3	3	0	+ 2
10484	8.8	75.1	96.7	2	0	- 4	10544	9.2	77.1	97.7	2	- 2	- 2	10604	9.4	80.7	96.0	3	+ 1	- 1
10485	9.1	82.2	01.6	2	- 4	- 5	10545	8.5	75.4	99.5	3	+ 3	+ 2	10605	9.1	74.7	98.3	3	- 3	- 2
10486	9.4	81.7	00.0	3	0	+ 1	10546	7.7	78.3	97.7	2	+ 6	+ 2	10606	9.0	75.2	98.3	3	- 2	- 1
10487	9.2	77.7	97.4	3	- 1	0	10547	9.3	80.7	01.0	4	- 5	- 2	10607†	9.5	77.7	99.5	3	- 18	- 4
10488	9.2	85.7	96.7	2	- 7	+ 1	10548	7.8	76.6	96.7	2	+ 5	+ 1	10608	7.9	78.1	01.1	3	+ 5	- 2
10489	8.5	79.0	99.7	3	+ 8	- 2	10549	9.0	85.1	96.7	2	+ 2	+ 4	10609	8.9	77.3	01.6	2	- 9	+ 2
10490	9.5	72.6	96.4	3	- 9	- 4	10550	9.2	78.9	01.0	4	0	+ 2	10610	9.2	81.9	99.5	3	+ 3	- 1
10491	7.9	75.4	96.7	2	+ 2	0	10551	9.0	77.0	98.1	2	- 2	- 2	10611	9.4	85.1	97.4	5	- 4	- 1
10492	9.0	75.5	97.4	3	- 1	0	10552	8.4	74.7	99.5	3	+ 3	- 1	10612	9.1	84.4	99.5	3	+ 5	- 5
10493	9.0	80.9	99.7	3	0	- 1	10553	9.0	79.7	98.1	2	0	+ 1	10613	8.0	76.2	99.5	3	+ 2	- 2
10494	9.0	75.4	95.7	2	- 3	0	10554	9.0	79.9	98.1	2	+ 1	+ 1	10614	9.4	80.6	99.5	3	- 2	+ 2
10495	9.0	76.7	99.7	3	- 1	- 2	10555	9.3	74.9	01.1	3	- 1	0	10615	9.4	78.1	99.5	3	- 3	+ 2
10496†	9.1	84.3	00.0	3	- 2	- 2	10556	9.5	84.4	96.7	2	- 7	- 3	10616	9.1	85.0	95.4	3	0	+ 1
10497	9.0	73.7	96.7	2	0	- 1	10557	9.0	75.0	97.7	2	+ 2	- 2	10617	9.4	86.7	99.5	3	- 2	+ 4
10498	9.5	78.2	98.5	5	- 7	- 1	10558	9.3	79.5	96.7	2	- 3	+ 1	10618	8.9	75.0	99.8	4	+ 1	+ 2
10499	8.0	78.0	96.7	2	+ 3	- 2	10559†	9.5	82.2	01.1	3	- 11	+ 1	10619†	9.5	80.7	99.5	3	- 19	- 1
10500	7.4	76.9	99.1	5	+ 3	+ 1	10560	8.0	78.4	97.7	2	0	- 2	10620	9.5	73.6	98.0	3	+ 2	- 1



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
10621	9.2	90.7	95.4	3	+ 2	+ 2	10681	9.5	74.2	95.2	2	- 3	+ 1	10741	9.3	73.7	99.8	2	- 7	- 2
10622	9.0	74.3	01.1	3	- 1	+ 1	10682	7.0	74.0	93.2	2	+ 4	- 2	10742	8.1	79.5	99.8	2	0	- 1
10623	9.0	82.2	96.0	3	+ 4	0	10683	9.4	80.7	95.2	2	+ 2	- 1	10743	8.6	78.4	94.2	4	+ 1	+ 1
10624	9.1	74.3	97.1	6	- 2	+ 1	10684	9.4	85.0	98.8	3	- 1	- 3	10744	9.3	76.4	97.7	3	- 1	0
10625	9.1	81.7	98.3	3	+ 1	- 3	10685	8.7	75.9	95.2	2	0	0	10745	9.2	91.7	96.3	2	- 5	+ 2
10626	9.5	73.6	96.0	3	+ 6	- 1	10686	8.3	75.9	98.1	2	+ 2	- 1	10746	9.0	73.9	93.0	3	+ 3	+ 4
10627	9.5	73.1	96.0	3	0	- 1	10687	9.1	75.0	95.2	2	- 4	0	10747	8.6	82.7	99.1	3	+ 2	+ 1
10628	8.6	74.7	98.0	4	+ 4	+ 2	10688†	9.3	78.7	99.3	4	- 19	+ 1	10748	8.9	80.7	99.8	2	+ 1	- 2
10629	9.0	72.6	98.9	6	- 1	+ 2	10689†	9.4	80.7	94.3	3	- 14	- 3	10749	9.2	83.7	94.3	3	- 1	+ 1
10630	9.4	75.6	94.9	4	+ 1	- 1	10690	9.2	74.8	99.7	4	+ 1	+ 1	10750	9.0	80.3	01.7	2	- 2	+ 4
10631	9.0	75.7	01.0	4	- 7	+ 3	10691	9.5	74.7	01.1	3	- 6	+ 2	10751	9.3	83.2	96.3	2	+ 1	0
10632	9.3	74.7	95.5	5	- 3	0	10692	9.5	73.6	98.8	3	- 3	0	10752	8.5	79.7	96.3	2	+ 3	- 2
10633	9.0	73.7	97.0	5	- 1	+ 1	10693	9.5	74.2	01.6	2	- 4	+ 3	10753	8.5	84.0	99.8	2	0	- 3
10634	9.3	75.2	98.0	4	- 3	+ 1	10694	9.4	75.0	98.8	3	- 2	+ 1	10754	9.0	79.1	97.7	3	- 3	+ 3
10635	9.4	83.7	98.1	2	0	- 4	10695	9.1	76.2	99.3	4	0	0	10755	9.4	74.9	96.3	3	- 5	+ 3
10636†	8.8	74.4	01.0	4	- 10	- 16	10696	9.4	77.7	94.7	2	0	- 1	10756	9.1	80.5	99.8	2	0	+ 1
10637†	8.8	90.4	01.0	4	+ 4	- 5	10697	9.2	78.2	99.3	4	- 3	- 3	10757	9.3	77.9	96.3	2	+ 4	0
10638	8.0	73.5	94.0	3	+ 2	+ 1	10698	9.2	85.4	01.1	3	0	+ 3	10758	8.7	74.6	93.2	2	- 2	0
10639	8.7	76.1	95.2	2	+ 3	0	10699	7.0	75.2	96.7	4	- 1	0	10759	9.0	81.2	96.3	2	0	- 5
10640	9.0	76.7	01.0	5	+ 3	0	10700	9.4	74.2	98.8	3	- 3	+ 2	10760	9.2	82.1	96.3	2	- 2	0
10641	7.9	75.4	98.1	2	+ 1	+ 1	10701	9.0	76.5	98.8	3	+ 2	- 2	10761	9.0	79.5	99.8	2	+ 2	0
10642	8.8	78.7	98.1	2	+ 3	+ 3	10702	9.5	73.7	98.8	3	+ 1	- 3	10762	9.2	83.7	94.3	3	0	+ 2
10643	9.5	80.7	95.2	2	- 4	- 6	10703	9.2	78.0	96.7	4	+ 1	- 2	10763	9.1	85.7	99.8	2	+ 4	- 2
10644†	8.9	74.2	01.1	3	+ 10	- 18	10704	6.4	76.2	96.7	4	+ 5	0	10764	9.4	81.8	99.8	2	- 9	+ 1
10645	9.4	74.2	01.5	4	- 2	+ 4	10705	9.4	78.7	96.0	3	- 2	+ 2	10765	9.5	75.2	95.4	4	0	+ 4
10646†	8.2	79.3	01.1	3	+ 10	+ 17	10706	9.3	75.3	93.2	2	- 6	0	10766	8.9	76.4	99.8	2	- 2	- 3
10647	9.2	76.0	95.2	2	+ 2	- 1	10707	9.0	81.6	96.7	4	- 1	0	10767	7.1	76.1	96.3	2	+ 6	+ 2
10648	9.1	82.0	95.2	2	0	+ 1	10708	8.8	75.4	95.2	4	+ 2	+ 2	10768	9.1	79.4	95.4	4	- 1	+ 4
10649	9.0	76.5	01.1	3	+ 3	+ 3	10709	7.2	74.4	00.6	4	+ 2	+ 1	10769	9.5	73.6	95.4	4	- 1	- 3
10650	7.0	74.0	98.8	3	- 1	- 3	10710	9.5	73.2	98.8	4	- 4	+ 2	10770†	9.0	75.7	94.3	3	- 1	0
10651	9.4	77.5	95.2	2	- 4	- 2	10711	7.4	78.5	00.6	4	+ 3	- 1	10771	7.6	77.1	95.1	3	+ 5	- 3
10652	9.3	74.2	99.3	4	0	+ 3	10712	8.6	76.7	00.6	4	0	- 5	10772	7.7	73.3	94.3	3	+ 3	- 2
10653	9.4	77.7	01.5	4	- 3	+ 2	10713	8.1	76.2	95.2	4	+ 2	- 2	10773	9.2	77.9	99.8	2	0	0
10654	7.9	77.6	95.2	2	+ 2	0	10714	9.0	75.2	93.2	2	- 2	0	10774	8.8	84.7	93.2	2	+ 2	- 1
10655	7.6	78.3	96.3	3	+ 5	+ 1	10715	9.3	76.7	95.2	4	+ 1	- 1	10775	9.0	74.9	93.2	2	+ 3	0
10656	9.1	83.5	98.1	2	- 3	- 2	10716	8.9	76.1	95.2	4	+ 1	- 1	10776	9.2	75.7	94.7	3	- 5	+ 2
10657	8.0	76.7	94.7	3	+ 1	0	10717	9.3	74.8	93.2	2	0	+ 1	10777	8.5	77.4	99.8	2	+ 4	+ 1
10658	9.0	74.7	98.1	2	0	- 2	10718	9.0	78.0	98.8	4	0	+ 1	10778	9.2	79.3	96.3	2	- 6	0
10659	8.4	77.7	95.2	2	0	+ 1	10719	8.2	74.7	00.6	4	+ 3	- 2	10779	9.0	74.4	97.7	3	+ 1	0
10660	7.6	75.0	98.8	3	+ 4	0	10720	9.5	79.7	95.2	4	- 6	- 2	10780†	6.2	74.7	99.8	2	+ 56	- 45
10661	9.3	76.6	96.3	3	+ 2	+ 7	10721	9.2	75.7	96.7	4	+ 3	- 1	10781	9.3	75.7	95.1	4	- 3	- 1
10662	9.0	77.8	99.3	4	- 3	- 1	10722	9.0	73.6	95.2	4	- 2	- 2	10782	8.8	78.0	96.3	2	0	- 1
10663	9.2	75.4	95.2	2	- 3	+ 2	10723	9.1	77.7	95.2	4	+ 3	0	10783	9.0	79.4	96.3	2	+ 3	- 2
10664	9.2	86.0	98.8	3	- 2	+ 1	10724†	8.6	77.5	00.6	4	0	- 7	10784	9.5	83.2	98.7	5	- 5	- 1
10665	9.4	80.2	95.2	2	0	- 1	10725	8.9	74.4	98.8	4	- 3	0	10785	9.4	92.6	01.7	2	- 6	- 3
10666	8.9	76.4	98.8	3	+ 2	0	10726†	5.0	73.7	93.2	2	+ 2	0	10786	7.5	77.7	99.8	2	0	+ 1
10667	8.5	75.4	98.1	2	+ 4	0	10727	8.1	77.7	96.3	2	+ 3	- 3	10787	9.3	90.5	99.8	2	- 4	- 2
10668†	8.1	76.0	98.8	3	+ 12	+ 2	10728	8.7	77.5	96.3	3	+ 4	- 1	10788†	9.5	93.6	99.8	2	- 16	+ 2
10669	9.2	83.7	95.2	2	+ 1	- 3	10729	8.8	79.5	94.3	3	0	- 2	10789	8.8	75.9	97.7	7	+ 2	+ 4
10670	8.1	78.7	98.8	3	+ 5	- 1	10730	9.3	77.9	96.3	3	- 1	- 1	10790	8.8	76.4	96.3	2	- 5	+ 2
10671	8.4	74.3	93.2	2	+ 4	- 3	10731	7.5	77.7	94.3	3	+ 3	- 1	10791	8.8	83.4	95.1	4	- 1	- 3
10672	9.1	73.6	97.3	4	- 9	+ 2	10732	9.3	74.0	93.2	2	+ 3	0	10792	8.5	77.1	99.8	2	+ 2	- 2
10673	8.0	74.2	01.1	3	0	+ 1	10733	9.1	84.7	99.8	2	0	0	10793	9.1	79.2	96.3	2	- 6	+ 2
10674	9.5	86.2	98.1	2	- 9	- 3	10734	9.0	74.7	96.3	2	0	+ 2	10794	8.6	75.2	94.7	3	+ 3	- 3
10675	9.2	73.9	98.8	3	+ 3	+ 2	10735†	...	...	...	...	...	...	10795	9.2	80.7	95.1	4	- 2	+ 3
10676	9.3	73.7	01.6	2	- 5	+ 2	10736	9.0	74.0	99.8	2	- 3	- 2	10796	9.5	74.6	96.3	2	- 7	+ 1
10677	8.6	74.9	98.1	2	+ 3	0	10737	9.1	84.7	96.3	3	+ 1	0	10797	9.3	77.7	98.7	5	- 1	- 2
10678	9.5	74.7	01.1	3	0	- 2	10738	9.2	85.7	99.8	2	0	- 2	10798	9.4	81.7	98.7	5	- 4	- 2
10679	8.4	73.7	98.1	2	- 3	+ 3	10739	8.5	77.2	99.8	2	- 5	- 3	10799	8.0	74.9	98.7	5	- 3	- 2
10680	8.8	92.6	01.6	2	+ 2	- 2	10740	8.9	76.0	97.7	3	- 1	+ 6	10800	9.0	84.2	99.8	2	+ 2	+ 4



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
10801	8.4	93.1	01.7	2	0	+ 1	10861	9.4	74.0	95.7	2	- 2	0	10921†	9.4	87.7	00.6	1	- 11	0
10802	9.3	80.1	99.8	2	- 5	- 3	10862	8.8	77.1	97.7	3	+ 1	0	10922	8.1	74.9	95.4	4	- 1	- 3
10803	9.2	88.7	95.1	4	- 8	- 3	10863	9.4	79.8	97.5	5	- 7	+ 1	10923	9.4	85.7	95.8	3	- 5	- 3
10804	9.4	81.8	99.8	2	- 5	+ 2	10864	8.8	78.3	95.7	2	+ 3	- 2	10924	8.1	76.4	98.1	3	+ 3	- 3
10805	8.9	79.9	99.8	2	+ 1	+ 3	10865	9.5	82.2	96.4	3	- 2	+ 3	10925	7.8	78.7	98.7	4	+ 4	0
10806	9.0	73.3	95.1	4	+ 2	- 1	10866	9.2	82.7	99.7	2	+ 1	+ 3	10926	9.2	83.2	96.1	4	- 3	+ 2
10807	9.3	87.2	01.7	2	- 2	+ 4	10867	9.2	76.7	96.3	2	+ 2	+ 2	10927	8.9	91.4	95.7	2	- 3	- 2
10808	8.8	78.4	95.1	4	+ 1	- 4	10868	8.9	78.3	95.7	5	+ 2	+ 2	10928†	9.5	73.7	98.5	5	- 3	0
10809	8.7	80.5	95.1	4	+ 4	- 1	10869	9.4	73.9	99.7	2	0	+ 2	10929	9.5	72.6	95.8	3	+ 1	+ 1
10810	9.0	78.2	00.7	3	+ 5	0	10870	9.1	83.1	99.7	2	+ 2	- 1	10930	7.6	77.8	96.1	4	+ 2	- 3
10811	9.5	72.6	96.3	2	+ 6	- 1	10871	9.0	77.9	97.5	6	+ 4	- 1	10931	9.1	80.4	98.7	4	+ 5	- 4
10812	9.4	77.3	98.7	5	- 2	0	10872	9.0	78.2	95.7	5	+ 2	0	10932	9.0	76.9	95.8	3	- 6	0
10813	8.4	79.3	95.1	4	+ 2	0	10873	9.4	85.7	96.3	2	- 4	+ 2	10933	9.5	79.7	98.5	5	- 8	+ 6
10814†	7.9	78.4	98.7	5	+ 5	- 23	10874	8.9	75.4	01.7	2	+ 3	+ 2	10934	8.6	79.2	98.7	4	+ 2	- 1
10815	9.2	92.7	01.7	2	- 4	- 2	10875	9.2	83.1	97.5	6	- 3	+ 4	10935	8.6	77.4	97.7	2	+ 1	- 1
10816	9.2	85.7	98.7	4	- 3	+ 2	10876	9.4	85.4	96.3	2	- 4	- 2	10936	9.0	78.0	96.0	3	- 3	+ 1
10817	9.3	83.8	99.8	2	- 2	0	10877	8.7	86.7	95.7	2	+ 2	- 2	10937	9.2	83.7	97.7	2	+ 5	+ 2
10818	8.4	92.6	01.7	2	0	- 4	10878	9.1	82.5	01.7	2	- 2	+ 2	10938†	9.2	77.3	98.7	4	- 4	- 3
10819	9.0	74.2	96.7	3	- 1	+ 2	10879	8.3	78.9	96.7	3	+ 3	- 1	10939	8.5	78.2	97.7	2	0	+ 2
10820†	...	...	...	...	...	...	10880	9.3	78.7	99.7	2	- 5	+ 2	10940	9.2	85.0	98.7	4	- 1	- 1
10821	9.0	77.7	95.7	2	- 1	+ 1	10881	9.5	79.8	97.5	6	- 3	+ 1	10941	9.0	74.0	95.7	2	+ 2	- 1
10822	9.2	85.0	95.7	2	- 1	0	10882	8.0	78.2	97.5	7	+ 6	+ 1	10942†	5.8	78.8	96.0	3	+ 7	+ 1
10823	9.4	79.2	96.0	3	- 3	+ 1	10883	9.2	82.7	96.3	2	- 2	- 2	10943	9.2	80.7	97.7	2	0	- 2
10824	8.4	76.4	98.7	4	+ 3	- 1	10884	9.3	74.2	95.7	5	- 8	- 1	10944	9.3	80.7	98.7	4	- 8	+ 1
10825	8.0	79.5	96.0	3	+ 6	- 1	10885	9.1	83.5	97.5	6	+ 1	- 1	10945	7.0	73.6	94.2	2	+ 4	- 1
10826	9.4	77.2	98.7	4	- 3	- 2	10886	8.0	77.4	95.7	5	+ 2	+ 1	10946	9.5	85.9	98.7	4	0	+ 2
10827	9.2	80.7	96.0	3	- 4	- 1	10887	9.0	80.4	95.7	5	+ 1	- 2	10947	9.3	82.7	97.7	2	- 3	- 2
10828	8.1	77.6	95.0	3	+ 6	+ 3	10888†	9.0	78.4	99.7	2	- 2	0	10948	8.5	80.2	95.7	2	- 3	- 1
10829	8.9	76.9	96.0	3	0	- 2	10889	9.1	75.7	99.7	2	+ 7	+ 1	10949	7.5	77.1	96.4	3	+ 3	- 2
10830	8.9	79.4	95.0	3	+ 2	+ 2	10890	8.8	75.7	99.7	2	- 3	- 1	10950	7.8	79.0	99.0	3	+ 3	0
10831	8.7	76.4	00.0	3	0	- 5	10891	8.9	76.7	97.5	6	- 2	- 2	10951	9.5	75.6	95.7	2	0	- 2
10832†	7.9	84.0	98.7	4	0	- 1	10892	8.5	76.2	00.7	3	+ 1	+ 3	10952	8.3	78.0	95.4	4	+ 2	+ 1
10833	7.7	77.7	95.0	3	+ 1	+ 3	10893	8.7	92.7	01.7	2	- 3	+ 1	10953	8.5	78.7	96.4	3	- 1	0
10834	8.1	76.5	00.7	4	+ 2	- 7	10894	7.8	76.7	97.5	7	+ 5	+ 2	10954	8.9	76.1	94.2	2	0	+ 1
10835	9.0	74.9	95.4	3	0	- 4	10895	8.6	84.0	97.5	6	0	0	10955	8.4	78.5	94.2	2	- 1	0
10836	8.9	80.2	00.0	3	- 1	- 1	10896	8.9	78.7	00.7	3	+ 1	0	10956	9.1	86.4	94.2	2	- 5	0
10837†	9.0	79.6	00.0	3	+ 3	0	10897	9.5	86.0	02.2	2	- 6	0	10957	9.3	77.9	96.0	3	- 2	- 1
10838	8.9	80.3	00.0	3	+ 2	+ 1	10898	9.3	80.7	95.7	5	- 6	+ 2	10958	9.2	82.7	97.7	2	+ 3	0
10839	8.5	79.7	00.0	3	+ 3	- 2	10899	8.3	76.3	96.3	2	- 2	- 3	10959	8.8	77.2	95.7	2	+ 1	0
10840	8.3	75.3	98.7	4	+ 5	- 1	10900	8.7	74.2	99.7	2	- 2	- 5	10960	9.1	86.7	94.2	2	- 6	+ 6
10841	9.4	82.1	01.3	3	- 4	+ 2	10901	8.9	79.7	96.0	3	+ 2	- 1	10961	8.0	77.5	97.7	2	+ 3	0
10842	8.9	83.0	01.3	3	+ 4	+ 3	10902	9.5	84.2	99.7	2	- 6	- 2	10962	8.9	78.6	98.7	4	+ 2	- 4
10843	8.3	75.7	95.7	2	+ 5	+ 1	10903	9.3	79.3	96.0	3	+ 5	- 3	10963	8.6	79.5	98.7	4	+ 4	- 2
10844	8.8	74.8	96.3	2	0	- 3	10904	9.5	74.7	98.5	5	+ 1	+ 1	10964	9.0	78.0	96.0	3	- 3	+ 2
10845	9.0	78.4	95.7	2	- 1	0	10905	8.8	76.9	95.7	2	+ 2	0	10965	9.1	79.4	99.0	3	+ 1	- 1
10846	9.0	74.0	97.7	3	+ 5	+ 2	10906	9.2	86.7	98.7	4	- 3	+ 2	10966	8.7	77.2	97.7	2	+ 7	0
10847	9.3	80.0	96.7	3	- 3	+ 3	10907	9.1	76.1	01.6	3	+ 3	- 2	10967	9.0	82.0	94.2	2	+ 2	0
10848	9.2	85.7	98.5	5	+ 1	0	10908	9.4	77.1	98.7	4	+ 3	- 1	10968†	9.4	80.7	96.0	3	- 15	- 3
10849	8.2	77.2	95.7	2	0	+ 2	10909	9.5	90.7	96.3	2	- 2	- 3	10969	9.4	85.7	96.4	4	- 1	0
10850	8.5	74.9	98.7	4	+ 2	+ 4	10910	9.0	80.3	98.7	4	+ 1	+ 1	10970	9.0	78.7	96.4	4	- 2	+ 1
10851	9.2	83.1	96.0	3	- 1	- 2	10911	9.0	75.7	96.3	2	0	+ 2	10971†	7.9	77.4	94.2	2	+ 1	0
10852	9.4	76.8	96.3	2	+ 2	+ 2	10912	9.4	81.4	98.7	4	- 3	0	10972	8.8	75.9	96.3	3	+ 1	- 3
10853	9.0	74.0	01.7	2	- 3	+ 2	10913	9.3	92.7	98.1	3	- 2	0	10973†	9.5	74.8	96.3	3	- 13	0
10854	9.4	79.7	96.3	2	- 4	+ 3	10914	8.5	76.7	95.7	2	0	- 2	10974†	5.9	76.5	96.4	4	+ 4	0
10855	9.3	82.7	99.7	2	+ 1	+ 2	10915	9.3	82.7	95.8	3	- 5	0	10975	6.3	75.4	96.4	4	+ 1	0
10856	8.9	78.7	99.7	2	- 3	- 1	10916	9.1	84.7	98.1	3	- 1	- 1	10976	9.0	81.4	96.4	4	- 1	+ 2
10857	9.4	87.2	96.0	3	- 3	- 1	10917	9.4	81.8	98.1	3	- 4	+ 6	10977	9.0	79.8	97.8	7	+ 1	+ 1
10858	8.4	77.3	98.7	4	+ 4	- 3	10918	9.0	76.5	98.1	3	- 4	0	10978	9.5	72.7	96.3	3	- 4	0
10859	9.5	79.8	98.7	4	- 8	+ 2	10919	8.2	76.9	96.1	4	+ 1	- 5	10979	9.4	77.1	99.0	6	- 3	+ 4
10860	9.5	76.3	96.3	2	+ 1	- 2	10920	8.9	79.4	95.7	2	+ 4	0	10980	7.5	77.2	96.4	4	+ 3	+ 1



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
10981†	6.1	76.9	96.4	4	+ 6	- 2	11041	8.9	82.0	98.7	3	- 2	- 1	11101	7.0	84.7	94.2	2	+ 8	- 1
10982	8.7	75.0	94.2	2	+ 8	+ 2	11042	9.1	80.6	97.5	5	- 2	+ 2	11102	9.0	77.4	95.7	2	+ 1	0
10983	9.4	80.4	96.3	3	- 6	- 3	11043	9.5	79.8	97.5	5	+ 1	+ 1	11103	9.1	83.2	97.7	2	0	0
10984	9.2	75.8	94.2	2	0	- 2	11044	9.2	86.3	98.7	3	+ 1	0	11104	9.0	74.5	94.2	2	- 3	+ 2
10985	8.7	78.7	94.2	2	+ 2	- 9	11045†	5.2	82.7	97.5	4	+ 7	+ 1	11105	7.8	83.1	99.0	3	+ 2	+ 1
10986	9.0	75.3	94.2	2	- 3	0	11046†	9.3	80.1	96.0	3	- 11	+ 1	11106	9.0	81.2	99.4	3	+ 3	+ 1
10987†	9.5	81.8	96.3	3	- 26	+ 2	11047	9.3	80.4	97.7	2	- 3	- 2	11107	8.9	78.7	95.7	2	- 4	+ 3
10988	9.3	80.7	01.1	2	0	- 3	11048	9.0	82.4	95.7	2	0	- 1	11108	9.4	88.7	95.7	2	- 7	- 2
10989	9.2	74.7	94.2	2	- 2	0	11049	9.4	78.2	97.7	2	+ 6	0	11109	9.3	87.2	95.4	3	- 2	0
10990	8.6	78.5	94.2	2	0	+ 2	11050	9.0	92.7	95.7	2	+ 2	- 2	11110	8.5	79.1	99.4	3	+ 1	+ 1
10991	9.0	77.2	94.2	2	+ 1	+ 3	11051	9.0	82.7	95.7	2	+ 1	0	11111	9.1	81.0	98.2	2	- 3	0
10992†	8.7	79.0	97.7	2	- 3	0	11052	9.4	87.2	97.7	2	- 1	+ 2	11112	7.4	77.7	99.4	3	- 2	+ 2
10993	9.4	86.7	01.1	2	- 8	0	11053	8.0	84.4	97.7	2	+ 3	- 2	11113	9.2	87.2	95.7	2	+ 4	+ 2
10994†	9.5	81.8	01.1	2	- 13	+ 10	11054	9.0	72.6	96.4	3	- 1	+ 4	11114	8.4	81.0	99.4	3	- 1	- 4
10995	7.5	77.7	99.0	6	+ 6	+ 7	11055	9.2	82.7	94.2	2	- 5	- 1	11115†	8.7	83.7	94.2	2	+ 3	- 6
10996†	8.9	79.0	94.2	2	+ 1	- 1	11056	9.3	85.8	97.7	5	- 6	0	11116	9.5	72.7	98.2	2	0	- 3
10997	8.9	76.5	99.0	3	0	0	11057	9.0	83.7	97.7	5	+ 2	- 1	11117	9.3	89.4	95.7	2	- 6	0
10998	8.8	80.1	99.0	6	+ 2	+ 2	11058	9.0	79.9	96.7	4	0	- 4	11118	9.1	86.7	96.7	3	+ 2	- 1
10999	9.3	76.4	94.2	2	- 2	+ 4	11059	8.5	81.2	97.7	6	+ 2	+ 1	11119	8.0	73.4	98.7	5	0	+ 2
11000	9.0	79.0	99.0	6	0	0	11060	8.9	76.7	94.2	2	- 3	+ 2	11120	9.0	76.1	95.2	4	0	0
11001	8.9	74.9	96.3	3	+ 4	0	11061	9.0	75.3	94.2	2	+ 4	+ 2	11121	9.1	80.7	95.7	2	+ 2	- 6
11002	9.5	74.7	99.0	6	+ 4	- 4	11062†	4.9	80.7	95.7	2	+ 8	+ 1	11122	7.0	75.7	98.2	2	+ 4	- 3
11003†	...	...	...	...	...	...	11063	9.5	86.8	97.7	5	- 9	- 3	11123	9.3	80.8	98.2	2	- 7	0
11004	8.9	74.4	99.0	3	+ 1	0	11064	9.2	85.8	01.1	2	+ 1	- 2	11124	9.5	72.6	96.0	4	0	+ 2
11005	7.9	77.1	95.9	5	+ 5	0	11065†	9.1	84.7	96.7	4	+ 3	0	11125	9.3	76.7	94.4	3	0	+ 2
11006†	9.5	72.6	94.2	2	+ 1	+ 4	11066	9.2	88.7	01.1	2	+ 6	- 1	11126	8.2	75.9	99.4	3	+ 4	- 2
11007	9.5	75.7	97.7	2	0	+ 2	11067	9.2	85.7	96.7	4	- 4	0	11127	9.4	84.7	01.3	3	- 8	+ 2
11008	9.3	90.7	97.5	4	- 5	+ 2	11068	8.8	79.4	94.2	2	0	- 6	11128†	9.2	87.1	01.3	3	0	+ 1
11009	9.2	84.4	97.7	2	+ 2	- 2	11069	9.4	81.2	97.7	2	- 1	- 2	11129	9.0	78.3	99.4	3	+ 2	+ 3
11010	8.8	76.8	97.5	4	+ 1	- 2	11070	9.1	89.8	96.7	4	+ 1	- 3	11130	9.1	73.7	95.7	2	- 2	+ 2
11011	8.5	85.2	97.5	4	+ 5	0	11071	9.2	91.7	97.7	5	+ 1	- 2	11131	9.4	77.7	94.2	2	- 3	0
11012	8.3	79.0	01.1	2	0	- 2	11072	7.5	82.4	96.7	4	+ 3	- 2	11132	9.3	79.5	98.2	2	- 8	+ 1
11013	8.3	76.9	95.7	2	+ 3	0	11073	8.0	81.0	97.7	5	+ 2	+ 1	11133	7.3	75.4	97.7	2	+ 2	+ 1
11014	9.5	84.5	97.5	5	- 4	0	11074	7.1	86.2	95.7	2	+ 6	0	11134	9.3	77.7	98.2	2	- 6	0
11015	8.0	77.3	95.7	2	+ 6	0	11075	8.6	76.3	97.7	2	- 3	- 3	11135	8.8	81.2	96.7	3	0	+ 2
11016	9.2	83.7	96.4	3	- 6	+ 1	11076	8.1	83.7	94.2	2	0	+ 2	11136	9.3	85.7	96.7	3	- 4	0
11017	9.4	85.1	01.1	2	- 3	+ 2	11077	9.2	88.7	97.7	5	- 1	- 3	11137	8.9	76.0	01.1	2	+ 3	+ 2
11018	9.0	83.7	97.5	4	0	0	11078	9.3	82.7	97.7	2	+ 1	0	11138	9.4	78.9	98.4	3	- 3	- 1
11019	8.8	76.4	96.0	3	+ 3	- 1	11079	9.0	81.2	95.7	2	0	+ 4	11139	9.0	75.2	97.7	2	+ 4	- 3
11020	9.5	77.7	97.5	4	- 4	- 3	11080	7.5	72.6	94.2	2	+ 3	+ 2	11140	8.3	86.7	96.7	3	+ 5	- 3
11021	9.4	76.6	97.5	5	- 2	- 1	11081	9.4	81.7	01.1	2	- 2	0	11141	9.2	85.4	96.7	3	- 3	+ 1
11022	9.0	75.9	96.0	3	+ 1	+ 5	11082	7.9	83.0	96.7	4	0	- 1	11142	9.2	84.7	94.2	2	- 2	+ 1
11023	9.5	74.7	97.5	4	0	- 3	11083	8.6	81.4	96.7	4	0	- 1	11143	9.1	85.4	94.2	2	- 8	- 1
11024	8.9	74.4	95.7	2	+ 3	0	11084	9.0	76.7	99.4	3	+ 1	+ 2	11144	8.7	84.2	96.7	3	- 3	- 2
11025	9.5	77.4	97.5	5	+ 2	- 1	11085	8.4	83.0	97.7	2	- 6	0	11145†	9.1	77.4	97.7	2	- 1	0
11026	9.3	84.8	01.1	2	+ 2	+ 2	11086	8.2	82.4	97.7	2	+ 3	- 1	11146	9.3	80.5	96.7	3	+ 4	0
11027	9.3	85.9	01.1	2	- 3	+ 1	11087	9.4	80.7	94.2	2	- 7	0	11147	9.4	81.7	94.2	2	+ 3	0
11028†	6.0	74.1	94.2	2	+ 5	- 3	11088	8.9	81.2	97.7	2	- 3	- 3	11148	8.7	75.0	01.1	2	- 4	+ 2
11029	9.1	86.4	99.0	3	- 2	0	11089	8.9	82.7	97.7	2	- 2	0	11149	6.9	77.9	97.7	2	0	- 2
11030	9.2	75.7	97.7	2	+ 1	- 1	11090	9.0	86.7	97.7	2	+ 4	- 3	11150	9.1	78.8	98.4	3	- 1	+ 1
11031	9.0	77.1	97.7	2	+ 4	- 4	11091†	...	...	...	...	...	...	11151	9.4	88.1	01.1	2	- 1	- 2
11032	9.1	86.0	96.0	3	+ 1	- 1	11092	8.7	80.0	98.2	2	+ 2	- 5	11152†	9.2	86.1	98.4	3	+ 12	0
11033	7.0	76.0	98.7	3	+ 7	- 2	11093†	8.0	76.1	94.2	2	+ 10	- 1	11153	9.3	78.5	96.7	3	+ 1	- 1
11034	9.2	87.2	97.5	4	- 6	0	11094	9.3	88.2	99.0	3	- 4	+ 4	11154	9.0	82.1	01.1	2	+ 1	- 3
11035	8.3	74.6	95.1	5	+ 4	- 1	11095	9.4	92.7	97.7	2	- 6	- 1	11155	9.2	83.7	98.4	3	+ 2	- 1
11036	8.8	80.3	96.0	3	+ 3	- 1	11096	9.4	78.7	98.2	2	+ 5	0	11156	8.9	77.1	00.5	4	+ 3	+ 1
11037	8.9	79.6	97.5	4	- 1	+ 1	11097	9.0	81.5	94.2	2	+ 1	0	11157	9.5	83.7	98.4	3	- 3	0
11038	8.7	79.2	00.9	3	+ 2	+ 2	11098	9.4	83.0	94.2	2	+ 2	0	11158	9.3	79.0	99.4	3	+ 4	+ 4
11039	9.4	88.0	97.5	4	- 3	0	11099	8.3	79.1	99.0	4	+ 2	- 4	11159	9.0	81.7	96.7	3	+ 1	- 2
11040	8.9	79.7	98.7	3	- 6	+ 1	11100	9.4	85.8	95.7	2	+ 2	0	11160	9.3	76.9	96.7	3	- 5	+ 1



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
11161	9.5	80.2	00.5	4	- 2	+ 1	11221	9.1	79.7	96.2	2	+ 1	- 1	11281†	9.4	75.7	98.7	5	+ 2	+ 3
11162	8.6	79.1	98.4	3	+ 2	+ 1	11222	8.7	80.7	98.7	2	+ 5	+ 4	11282	9.2	76.7	97.2	4	- 2	+ 1
11163	9.3	90.7	00.5	4	0	0	11223	9.0	80.4	94.2	2	+ 4	0	11283†	8.2	87.7	98.7	4	+ 4	0
11164	8.5	79.3	97.7	2	0	- 2	11224	9.0	84.7	96.4	3	+ 7	0	11284	9.4	74.3	93.7	2	+ 5	+ 1
11165	9.0	75.2	94.2	2	+ 1	0	11225	9.4	89.5	94.2	2	- 6	- 1	11285	8.3	80.3	98.7	3	+ 1	+ 2
11166	9.3	84.2	94.2	2	- 2	- 2	11226	9.5	76.6	97.1	3	+ 2	+ 2	11286	9.5	86.7	95.7	2	+ 8	+ 3
11167	8.4	81.1	97.7	2	+ 1	0	11227	9.2	74.7	98.7	3	+ 2	- 3	11287	9.1	84.7	97.7	2	+ 2	0
11168	8.2	79.0	96.7	3	+ 5	0	11228	9.2	87.7	98.7	3	- 2	+ 1	11288	9.5	75.5	93.7	2	0	- 1
11169	9.2	83.4	00.1	5	- 7	0	11229	9.5	74.3	96.2	2	- 6	+ 2	11289	8.4	74.7	98.7	5	+ 4	+ 2
11170	9.3	75.5	00.5	4	+ 2	0	11230	9.0	76.5	97.7	2	- 3	0	11290	9.3	74.2	93.7	2	+ 2	+ 4
11171	9.0	73.4	94.2	2	- 2	- 2	11231	9.2	84.8	98.7	3	- 3	- 3	11291	9.2	82.1	98.7	3	0	+ 1
11172	8.4	78.5	96.7	3	+ 2	- 1	11232	9.3	85.7	97.2	4	0	- 5	11292	9.5	78.8	98.7	3	- 6	- 5
11173	9.3	87.2	96.7	3	- 9	+ 1	11233	8.3	74.9	94.2	2	0	- 1	11293	9.0	74.9	95.7	2	+ 3	- 5
11174	9.0	75.2	01.2	2	+ 3	- 2	11234	9.3	86.7	97.7	2	+ 2	+ 3	11294	9.2	76.2	99.0	3	- 5	+ 1
11175	9.3	83.3	94.2	2	- 4	- 1	11235	9.0	89.7	98.7	5	+ 1	- 1	11295†	9.5	90.8	95.7	2	- 10	- 6
11176	8.6	82.8	96.2	2	- 4	- 2	11236	9.2	86.7	97.7	2	+ 3	0	11296	8.5	75.5	98.7	4	0	+ 1
11177	8.2	78.2	96.2	2	- 1	0	11237	9.1	85.8	93.7	3	- 1	- 1	11297	9.5	72.6	93.7	2	+ 4	0
11178	9.5	90.7	97.7	2	- 2	+ 5	11238	9.3	79.8	99.4	4	+ 2	+ 1	11298	9.3	83.7	95.7	2	+ 3	+ 2
11179	8.5	79.1	96.2	2	- 2	- 9	11239	9.3	86.2	98.7	3	+ 3	0	11299	9.0	74.2	98.7	3	0	- 1
11180	9.5	85.7	98.7	3	- 5	- 2	11240	9.3	88.8	98.7	5	- 7	0	11300†	9.3	82.8	98.7	4	- 10	+ 4
11181	8.0	74.2	97.7	2	+ 4	+ 2	11241	8.9	74.6	00.9	3	- 1	0	11301†	...	...	...	...	...	...
11182	8.7	84.2	01.1	2	- 4	- 2	11242	9.3	82.9	98.7	5	- 2	- 1	11302	9.4	74.5	99.0	3	- 6	- 2
11183	9.4	83.2	97.7	2	- 3	0	11243	9.3	75.5	98.7	5	- 1	- 2	11303	8.7	78.0	97.7	2	+ 6	+ 1
11184	8.9	75.2	97.0	3	+ 5	+ 1	11244	9.5	90.7	98.7	5	- 4	+ 2	11304	9.4	74.7	93.7	2	+ 1	+ 6
11185	8.5	74.4	96.2	2	+ 4	+ 3	11245	9.5	76.0	98.7	5	- 1	- 1	11305	9.3	84.4	01.1	2	- 7	+ 3
11186	9.0	73.3	98.7	2	+ 2	- 2	11246	9.5	73.7	98.7	5	- 3	+ 2	11306	9.5	80.7	98.7	3	- 7	- 1
11187	9.5	83.7	01.1	2	- 9	+ 5	11247	9.3	84.0	95.7	2	- 4	+ 2	11307	9.0	76.7	95.4	3	- 2	- 1
11188	8.8	75.0	98.7	3	+ 1	- 3	11248†	9.3	85.7	95.4	3	+ 1	- 1	11308†	9.3	90.7	95.7	2	- 12	+ 1
11189	7.4	75.2	01.1	2	+ 4	+ 2	11249	7.4	76.5	93.7	2	+ 6	+ 1	11309	9.0	77.2	98.7	3	- 1	- 2
11190	8.5	78.4	95.7	3	+ 3	- 1	11250	9.1	85.0	97.7	2	+ 4	- 1	11310	9.1	76.1	95.7	2	+ 3	- 1
11191	9.5	86.1	98.7	2	+ 1	+ 1	11251	9.0	77.7	93.7	2	- 2	0	11311	9.3	78.3	99.0	3	- 1	- 2
11192	9.4	72.7	96.2	2	+ 3	0	11252	9.0	74.7	95.7	2	- 2	+ 2	11312	8.2	74.7	98.7	4	+ 4	+ 1
11193	9.1	82.2	98.7	3	- 3	+ 1	11253†	8.3	78.2	96.0	3	- 1	+ 1	11313	9.0	81.7	98.7	4	+ 5	+ 1
11194	9.1	85.1	97.7	2	- 3	- 2	11254	8.2	78.9	98.7	5	+ 5	- 1	11314	9.4	75.7	93.7	2	0	0
11195	8.7	76.4	94.2	2	+ 1	+ 2	11255	9.2	81.8	98.7	4	+ 4	+ 1	11315	9.3	74.7	97.7	2	+ 2	0
11196	9.0	75.4	94.2	2	+ 4	0	11256	9.5	85.8	95.4	3	+ 6	+ 6	11316	9.0	75.7	96.0	3	+ 3	- 2
11197	8.1	83.8	98.7	4	+ 1	+ 3	11257†	9.5	80.7	98.7	4	- 9	- 17	11317†	8.8	74.2	95.7	2	+ 7	- 3
11198†	9.3	80.7	98.7	2	- 10	0	11258	9.4	74.0	97.5	5	- 1	- 1	11318	9.1	83.7	97.2	4	+ 3	+ 5
11199	9.0	77.9	96.2	2	+ 3	+ 1	11259	9.3	81.8	97.7	2	- 5	- 2	11319	9.5	92.7	01.1	2	- 8	0
11200	8.2	78.3	94.2	2	+ 3	+ 2	11260†	9.5	80.7	95.4	3	- 13	- 1	11320	8.9	75.4	98.7	4	+ 2	0
11201	9.4	80.0	94.2	2	- 3	0	11261	8.7	75.6	98.7	4	+ 1	0	11321	9.3	78.0	97.7	2	- 2	- 1
11202	9.5	74.7	94.2	2	+ 2	0	11262	7.5	79.7	98.7	5	+ 5	- 2	11322†	...	...	...	...	...	...
11203	9.4	72.7	98.7	3	- 5	+ 3	11263	8.9	74.2	95.7	2	- 2	- 4	11323	8.6	74.4	98.7	4	+ 3	0
11204	9.2	82.8	97.7	2	- 4	+ 3	11264	8.2	76.0	93.7	2	+ 8	- 2	11324	7.4	73.5	99.0	3	+ 3	- 1
11205	9.2	79.0	95.7	3	+ 5	- 4	11265	9.1	83.2	96.0	3	- 2	+ 2	11325	9.1	84.6	97.7	2	- 7	+ 4
11206	8.8	78.7	97.7	2	0	- 1	11266	8.9	74.8	97.7	2	0	- 2	11326	9.5	77.7	96.0	3	- 4	+ 1
11207†	...	...	...	...	...	...	11267	9.2	86.8	98.7	5	+ 1	- 1	11327	9.5	73.2	95.7	2	- 4	+ 3
11208	8.1	82.7	94.2	2	0	+ 2	11268	9.3	77.9	01.1	2	+ 2	+ 1	11328	9.1	77.7	95.4	3	+ 9	+ 3
11209	9.2	84.1	98.7	3	+ 3	+ 3	11269	9.4	77.3	98.7	4	- 1	0	11329†	...	...	...	...	...	...
11210	8.2	77.3	97.7	2	+ 2	- 3	11270	9.0	75.4	98.7	3	+ 3	- 1	11330	9.4	75.7	98.7	4	+ 2	- 4
11211	9.3	78.2	94.2	2	- 4	+ 1	11271	8.4	78.0	98.7	4	+ 2	- 1	11331	8.5	75.3	95.4	3	+ 1	+ 2
11212	7.3	77.5	98.7	4	+ 2	0	11272	9.5	72.7	93.7	2	- 9	- 3	11332†	8.6	79.5	95.7	4	+ 4	0
11213	9.3	78.1	96.2	2	+ 1	0	11273	7.9	86.4	01.1	2	+ 2	- 2	11333	9.5	84.6	97.7	5	- 4	- 2
11214	9.4	81.7	98.7	3	- 8	- 4	11274	9.2	85.3	95.7	2	+ 5	+ 3	11334	7.8	74.7	97.7	5	+ 2	+ 1
11215	9.4	78.4	94.2	2	0	+ 1	11275	9.2	84.8	95.7	2	+ 6	0	11335	9.5	83.7	97.7	5	- 5	- 4
11216	8.0	74.7	96.2	2	+ 1	0	11276	9.4	76.1	95.7	2	- 2	+ 2	11336	9.2	79.8	98.6	5	- 7	+ 2
11217	9.1	81.7	94.2	2	0	+ 2	11277	9.5	86.4	95.7	2	- 2	0	11337	8.5	77.2	96.7	3	+ 1	+ 1
11218	9.0	79.1	98.7	2	+ 2	0	11278	9.1	79.4	93.7	2	- 1	- 3	11338	9.1	80.8	95.7	4	- 1	+ 1
11219	9.2	83.2	98.7	2	0	+ 6	11279	8.9	75.1	97.7	2	+ 2	0	11339	9.0	78.5	96.7	3	- 3	- 2
11220	9.0	75.2	98.7	2	- 4	0	11280†	9.5	86.8	95.7	2	- 11	- 2	11340	9.0	79.4	01.2	3	- 2	+ 3



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
11341	9.4	74.7	01.2	3	+ 4	0	11401†	9.3	87.7	99.2	2	- 4.2	- 1	11461	8.9	76.7	98.9	4	- 1	+ 1
11342	9.5	78.9	95.7	4	- 7	- 1	11402†	9.5	78.8	93.7	2	- 10	- 4	11462†	9.4	77.2	96.2	4	- 10	0
11343	9.5	80.0	95.7	4	- 5	+ 2	11403	8.8	75.4	96.5	5	+ 5	0	11463	9.4	73.2	96.2	4	- 4	+ 2
11344	8.6	76.0	96.7	3	- 1	+ 1	11404	9.5	81.8	97.0	3	- 6	+ 6	11464	9.5	76.7	95.4	3	+ 2	+ 2
11345	9.3	81.7	97.7	5	+ 1	+ 1	11405	9.1	84.4	96.0	3	+ 1	+ 1	11465	8.6	74.9	95.4	3	+ 2	+ 1
11346	9.0	82.0	95.7	4	- 1	- 2	11406	7.9	77.5	01.1	2	- 1	- 3	11466	8.7	74.7	96.7	3	+ 3	+ 2
11347	8.7	77.5	95.1	5	+ 2	+ 1	11407	9.5	85.8	01.1	2	+ 6	0	11467	9.4	80.1	97.2	4	- 9	0
11348	9.5	76.6	97.5	5	- 5	+ 1	11408	8.0	74.7	94.7	3	0	0	11468	9.4	80.0	97.2	4	- 2	0
11349	9.1	84.8	95.7	4	0	+ 1	11409	9.5	91.6	96.0	3	+ 2	+ 2	11469	9.2	81.5	96.7	2	- 3	+ 4
11350	9.1	84.2	97.7	2	- 2	+ 2	11410	9.5	76.2	97.7	2	- 6	0	11470	7.5	79.0	97.7	2	+ 2	- 3
11351	9.2	86.2	97.7	2	0	- 4	11411	9.2	85.7	94.7	3	+ 4	- 1	11471	8.4	78.9	97.0	3	+ 3	+ 1
11352	9.3	81.2	95.7	4	+ 3	+ 1	11412	7.4	77.7	94.7	3	+ 5	0	11472	8.0	76.7	97.0	3	+ 5	+ 1
11353	9.3	85.1	97.7	5	- 5	+ 1	11413	9.3	77.7	94.7	3	+ 3	0	11473	8.6	77.7	97.7	2	+ 4	- 2
11354	8.5	75.0	93.7	2	+ 4	- 3	11414	9.1	83.0	93.7	2	0	- 2	11474	9.2	84.7	97.7	2	+ 3	+ 4
11355	8.2	78.0	93.7	2	+ 2	- 2	11415	9.2	86.7	94.7	3	- 1	0	11475	9.2	83.7	96.7	3	- 6	0
11356	7.9	75.7	93.7	2	+ 5	0	11416	9.2	75.7	93.7	2	+ 1	+ 2	11476	9.4	79.0	96.7	3	- 6	- 3
11357	9.1	85.4	97.7	2	+ 1	- 3	11417	9.4	77.5	94.7	3	- 5	+ 1	11477	7.7	79.7	96.7	3	+ 5	+ 2
11358	9.4	82.7	97.7	5	- 3	- 1	11418	9.2	83.2	93.7	2	- 7	+ 3	11478†	8.4	79.7	96.7	3	+ 3	0
11359	9.0	77.1	93.7	2	- 2	- 1	11419	8.8	73.7	97.0	3	+ 2	0	11479	9.4	73.7	97.2	4	- 7	0
11360	9.2	84.8	97.7	5	+ 5	- 1	11420	8.3	78.5	94.7	3	+ 4	+ 2	11480	8.5	77.4	97.0	3	+ 4	0
11361	9.0	80.4	97.7	2	+ 3	0	11421	8.7	79.2	94.7	4	0	- 1	11481	9.3	78.3	97.0	3	- 4	+ 2
11362	9.0	79.2	95.7	4	+ 2	0	11422	8.9	75.8	97.0	3	- 1	- 1	11482	9.2	78.9	97.0	3	+ 3	0
11363	9.0	83.7	94.7	3	+ 3	0	11423	9.5	82.2	99.0	3	- 6	+ 1	11483	8.4	76.2	97.7	2	+ 3	0
11364	9.1	83.1	94.7	3	+ 2	- 2	11424	7.7	74.1	97.2	4	- 1	0	11484	9.1	84.8	96.7	3	0	+ 2
11365	9.3	83.9	97.0	3	- 2	- 3	11425	9.4	76.7	97.2	4	- 5	+ 1	11485	9.4	84.8	96.7	3	- 3	0
11366†	9.2	80.4	97.2	4	+ 3	- 1	11426	9.4	74.2	99.0	3	+ 1	- 1	11486	9.0	74.3	96.7	2	0	- 1
11367	9.3	80.7	94.7	3	- 6	- 4	11427	8.7	79.3	97.2	4	+ 2	+ 1	11487	9.1	84.6	97.7	2	- 4	0
11368	8.5	87.2	94.7	3	+ 5	- 1	11428	9.5	79.7	97.2	4	+ 1	+ 1	11488	9.3	76.7	96.7	3	+ 2	- 1
11369	8.3	74.9	97.7	2	- 1	- 2	11429	8.7	74.4	97.7	2	+ 2	+ 3	11489	8.5	75.8	96.7	3	+ 8	- 1
11370†	9.5	84.8	97.0	3	- 11	+ 2	11430	9.2	75.7	93.7	2	- 4	- 1	11490	9.0	78.7	97.2	4	+ 3	0
11371	7.8	78.0	93.7	2	+ 4	0	11431	9.1	78.7	93.7	2	0	- 3	11491	9.2	79.5	98.0	3	- 1	- 2
11372†	7.6	78.4	94.7	4	+ 12	+ 3	11432	9.0	77.0	93.7	2	- 2	0	11492	9.1	76.9	97.7	2	- 2	- 2
11373	9.1	74.1	97.0	3	+ 1	- 2	11433	8.6	81.2	97.0	3	+ 3	- 4	11493	9.4	75.2	97.0	3	- 1	+ 2
11374	9.0	81.7	94.7	3	+ 4	- 1	11434	8.3	77.5	97.7	2	+ 2	- 3	11494	9.4	78.7	97.7	2	- 3	+ 3
11375†	9.0	77.9	97.7	2	0	+ 1	11435	8.8	76.4	93.7	2	+ 3	0	11495	8.7	73.2	96.7	2	+ 1	+ 3
11376	9.5	77.7	99.2	2	- 4	+ 2	11436	9.0	83.2	97.7	6	+ 1	+ 1	11496	9.2	84.4	98.0	3	+ 1	+ 2
11377	9.5	85.2	97.0	3	- 1	0	11437†	...	...	...	...	...	...	11497	8.1	73.4	96.2	4	+ 1	- 7
11378	9.3	88.4	97.0	3	- 1	+ 1	11438	9.2	75.4	93.7	2	0	+ 2	11498	8.9	79.2	97.7	2	0	- 2
11379	9.1	87.7	96.0	3	- 1	+ 1	11439	9.4	75.2	97.7	6	- 2	+ 1	11499	7.7	77.9	97.7	2	+ 3	0
11380	9.5	85.1	97.2	4	+ 4	+ 1	11440	8.2	78.8	97.7	6	+ 5	- 2	11500	8.9	85.3	01.1	2	+ 2	0
11381	9.2	84.6	94.7	3	- 8	+ 3	11441	9.2	78.4	94.7	3	+ 2	+ 1	11501	9.3	77.7	00.6	1	0	- 5
11382	8.9	77.7	99.0	3	0	- 2	11442	9.0	74.7	97.7	2	+ 3	0	11502	9.0	78.5	99.0	3	+ 1	+ 2
11383	8.9	74.9	97.2	4	0	- 2	11443	7.5	75.0	97.7	2	+ 6	+ 1	11503	9.4	76.7	97.0	3	+ 3	- 1
11384	8.2	75.7	96.7	3	+ 2	- 1	11444	6.0	77.8	97.7	5	+ 3	- 2	11504	9.1	84.7	97.7	2	0	0
11385	9.2	84.3	97.0	3	+ 1	0	11445	9.3	80.7	97.7	6	- 8	- 5	11505	9.2	83.2	96.7	4	0	0
11386	9.2	88.3	97.7	2	- 6	0	11446	8.4	80.8	98.9	4	+ 5	+ 2	11506	8.2	74.6	96.7	3	- 1	+ 1
11387†	4.2	76.4	99.0	3	+ 2	+ 1	11447	8.6	78.6	98.7	5	+ 2	- 1	11507	9.2	85.8	96.2	4	+ 1	+ 1
11388	8.9	78.8	94.7	4	- 1	+ 1	11448	9.5	73.7	94.7	3	- 5	- 3	11508†	9.5	87.4	96.2	4	- 8	- 6
11389	9.3	85.7	97.2	4	0	0	11449	9.4	78.0	98.9	4	- 3	0	11509	9.1	80.4	97.7	2	+ 2	- 2
11390	9.1	86.7	93.7	2	- 4	- 2	11450	9.5	90.7	94.7	3	- 6	- 2	11510	8.2	80.2	96.2	4	+ 4	0
11391	9.0	72.7	94.7	3	+ 1	0	11451	9.0	77.1	97.7	2	- 1	0	11511	9.0	74.0	96.7	5	+ 4	+ 1
11392	9.1	75.9	97.2	4	+ 4	- 1	11452	9.4	81.7	98.7	5	- 5	- 2	11512	9.1	83.8	96.7	5	- 7	+ 2
11393	9.2	84.8	97.0	3	- 1	0	11453	8.2	76.4	96.2	4	+ 4	+ 2	11513	9.0	77.2	96.3	4	+ 5	+ 3
11394†	...	...	...	...	...	...	11454	9.3	78.0	98.7	5	+ 3	- 1	11514	8.7	74.2	96.7	2	+ 2	0
11395	8.9	82.4	97.7	2	- 1	- 4	11455	9.5	79.8	98.7	5	- 5	+ 5	11515†	7.1	78.1	96.7	4	+ 6	+ 2
11396	9.5	75.1	97.0	3	- 2	+ 1	11456	8.1	79.7	95.4	3	0	0	11516	8.6	78.0	99.0	3	+ 4	+ 2
11397	9.4	74.4	93.7	2	+ 1	+ 2	11457	7.1	79.1	98.7	5	+ 3	- 2	11517	9.0	79.7	96.7	4	+ 2	+ 3
11398	9.1	78.3	97.7	2	- 4	0	11458	8.4	74.1	95.4	3	- 4	+ 2	11518	9.4	75.4	97.7	2	- 1	- 2
11399	8.8	75.7	97.2	4	+ 3	+ 1	11459	9.0	75.8	95.4	3	+ 2	- 3	11519	8.8	79.0	95.7	7	+ 2	0
11400	8.7	76.0	94.7	3	- 1	0	11460	9.0	76.2	99.4	4	- 1	+ 3	11520	9.1	82.5	98.0	3	+ 2	- 1



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No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
11521	9.2	85.7	96.3	4	+ 1	+ 1	11581	8.0	74.4	96.8	2	+ 1	- 4	11641	9.1	76.9	97.7	3	- 1	- 2
11522	9.2	85.1	96.7	4	- 6	0	11582	9.4	75.7	96.8	2	- 2	+ 1	11642†	9.3	80.7	94.8	1	+ 4	- 4
11523†	8.1	76.7	96.7	5	- 1	0	11583	9.4	85.8	98.4	5	- 3	- 1	11643	8.6	74.8	96.8	2	+ 4	0
11524	9.0	74.2	96.3	4	+ 5	- 2	11584	8.8	78.0	97.6	6	+ 2	0	11644	9.4	92.7	97.7	2	- 5	+ 6
11525	8.7	73.3	96.1	3	+ 2	+ 3	11585	9.0	84.7	96.8	2	- 1	- 2	11645	9.5	75.7	96.8	2	- 2	0
11526	9.4	88.3	96.3	4	- 5	0	11586	8.7	75.8	96.8	2	+ 2	- 3	11646	9.1	85.7	97.7	3	+ 7	+ 4
11527	9.0	74.3	96.3	4	+ 1	+ 1	11587†	7.8	74.1	91.6	2	- 3	- 2	11647†	9.5	73.7	96.7	2	- 11	0
11528	9.4	75.3	96.3	4	0	- 3	11588	9.1	85.7	98.5	6	+ 1	+ 1	11648	8.3	74.5	97.7	2	+ 1	- 3
11529	8.7	75.2	96.7	5	+ 7	- 1	11589	9.4	84.7	96.8	2	- 6	+ 4	11649	9.0	74.7	97.7	3	+ 2	+ 2
11530	9.5	72.7	96.1	4	- 8	- 2	11590	8.8	75.3	97.6	6	0	+ 2	11650	9.4	74.4	97.7	2	- 2	0
11531	9.3	84.2	96.7	3	- 4	- 1	11591	9.5	73.7	96.8	2	- 3	+ 1	11651	9.4	76.7	97.7	3	- 2	+ 1
11532	9.4	86.8	97.0	3	+ 1	+ 1	11592	8.9	78.7	98.4	5	- 5	+ 2	11652	9.3	85.8	97.7	3	+ 3	0
11533†	6.0	74.1	96.7	5	+ 7	- 1	11593†	9.4	86.7	96.7	2	- 10	+ 2	11653	9.4	81.3	96.7	2	+ 2	+ 1
11534	9.2	88.5	96.1	3	- 3	+ 1	11594	9.0	74.7	91.7	2	0	+ 2	11654	9.5	74.7	97.7	2	- 4	- 1
11535	9.2	87.2	96.7	3	- 4	+ 2	11595†	9.5	86.8	98.1	5	- 10	0	11655	9.1	86.4	97.7	3	+ 4	- 2
11536	9.3	88.1	91.6	3	- 7	+ 2	11596	9.5	92.7	97.6	6	- 9	+ 4	11656	9.5	81.8	97.7	3	+ 2	+ 3
11537	8.9	75.7	96.5	4	+ 3	+ 4	11597	8.1	77.5	98.4	5	+ 5	+ 1	11657	9.0	75.5	98.2	3	+ 2	+ 3
11538	9.4	74.2	96.7	2	- 1	+ 2	11598	8.8	80.6	98.1	5	+ 2	- 1	11658†	7.5	73.7	97.7	3	+ 3	+ 1
11539	9.5	84.3	96.8	2	- 2	- 2	11599	9.5	72.7	98.1	5	- 5	+ 1	11659	9.2	86.0	91.6	2	+ 2	- 2
11540†	9.5	81.8	91.6	2	- 12	+ 2	11600	8.5	79.7	98.1	5	+ 1	- 1	11660	9.5	86.2	97.7	3	- 1	+ 2
11541	9.3	81.7	96.1	3	+ 6	- 4	11601	9.1	85.0	98.0	3	+ 3	0	11661	7.8	75.5	97.7	3	+ 5	+ 1
11542	8.9	76.0	97.0	3	0	- 1	11602	9.0	85.4	97.7	2	+ 2	+ 2	11662	7.8	75.0	98.2	3	+ 3	- 2
11543	9.0	73.4	96.8	2	- 3	- 3	11603	9.4	75.4	98.1	5	- 3	0	11663	8.5	75.3	97.7	2	+ 2	- 1
11544	8.7	74.5	97.7	2	+ 3	- 2	11604	9.5	74.1	96.7	2	+ 4	+ 2	11664	9.0	74.3	97.1	3	- 1	- 1
11545	8.6	74.4	91.6	2	+ 1	+ 5	11605	8.6	76.0	98.4	5	+ 4	+ 3	11665	9.0	74.1	96.7	4	0	+ 2
11546	8.5	80.4	97.7	2	+ 2	- 2	11606	9.5	73.7	96.7	2	- 5	0	11666	9.4	74.7	97.1	3	0	+ 5
11547	9.3	75.0	96.7	2	+ 2	- 4	11607	9.4	87.5	98.1	5	- 3	+ 2	11667	9.2	82.8	97.7	2	- 6	0
11548	8.7	77.7	98.6	4	+ 2	0	11608	9.2	87.0	98.5	6	+ 2	+ 1	11668	8.5	78.3	97.7	3	- 1	- 1
11549	9.1	86.7	96.7	2	- 3	0	11609	7.0	78.2	98.1	5	+ 5	- 1	11669	9.4	75.8	96.7	2	0	- 3
11550	9.4	86.8	97.0	3	0	+ 2	11610	8.8	74.7	96.7	2	+ 3	0	11670	9.2	84.7	96.7	4	- 1	+ 1
11551	8.0	77.0	97.7	2	+ 2	+ 1	11611	9.5	86.8	98.1	5	- 5	+ 2	11671	8.1	75.2	96.7	2	+ 4	- 1
11552	9.3	89.8	96.7	2	+ 2	- 3	11612	6.5	74.0	97.7	2	+ 4	+ 3	11672	9.3	72.6	96.7	2	+ 4	0
11553	8.0	74.7	97.4	3	+ 9	+ 1	11613	9.0	76.0	97.7	2	+ 2	+ 2	11673	9.0	78.5	96.7	4	+ 1	+ 2
11554	9.2	87.7	91.6	2	- 4	+ 2	11614	9.4	75.1	96.7	2	+ 2	0	11674	9.3	86.2	97.1	3	- 7	- 3
11555	9.0	82.8	97.7	2	- 6	+ 2	11615	9.3	82.5	98.2	3	- 7	- 1	11675	9.4	92.7	96.7	4	- 8	0
11556	8.5	78.0	97.7	2	+ 2	+ 2	11616	9.1	86.8	98.2	3	- 5	- 8	11676	9.4	73.7	97.7	2	- 2	- 2
11557	9.2	85.7	96.7	2	- 2	+ 2	11617	9.4	72.7	96.8	2	+ 3	0	11677	9.2	86.7	97.1	3	+ 4	- 1
11558	8.7	72.7	97.0	3	- 7	- 1	11618	9.1	88.2	98.0	3	+ 2	0	11678	9.3	85.5	91.6	2	- 5	+ 2
11559	9.3	80.4	96.8	2	+ 4	+ 1	11619†	9.2	89.4	97.7	3	- 4	- 4	11679	9.2	83.0	97.1	3	- 1	+ 3
11560	7.2	80.5	91.6	2	+ 2	+ 2	11620	9.1	82.9	97.7	3	+ 2	+ 1	11680	9.0	77.7	97.1	3	+ 1	+ 4
11561	9.3	80.7	97.0	3	+ 6	+ 1	11621	8.5	74.9	96.8	2	+ 2	0	11681	9.3	87.1	96.7	4	- 2	- 2
11562	9.4	76.1	96.7	2	0	- 2	11622	8.0	75.3	98.2	4	+ 3	- 1	11682	9.0	74.9	97.7	2	+ 1	0
11563	9.2	86.7	96.8	2	+ 2	0	11623†	8.7	77.2	97.7	2	+ 14	- 3	11683	9.3	80.7	96.7	4	- 2	- 5
11564	9.3	80.1	97.7	2	0	- 2	11624	9.5	74.7	97.7	2	+ 4	+ 2	11684	9.5	77.6	96.3	2	- 2	0
11565	9.5	84.2	97.7	2	- 5	0	11625	8.5	75.3	98.2	4	0	+ 1	11685	9.3	86.7	97.8	3	+ 2	+ 2
11566	9.3	80.2	96.7	2	- 5	0	11626	9.3	84.7	98.6	3	- 9	+ 2	11686	9.0	74.5	96.7	2	- 2	- 1
11567	9.3	82.7	97.7	2	+ 2	0	11627	9.2	84.8	97.7	3	+ 2	0	11687	9.2	86.3	97.1	3	- 3	+ 4
11568	8.1	77.3	97.0	3	+ 1	- 2	11628	9.2	87.7	98.6	3	- 4	+ 4	11688	5.7	84.7	93.6	1	+ 2	- 7
11569	9.3	85.2	96.8	2	0	+ 2	11629†	9.3	72.7	97.5	3	- 10	- 3	11689	9.4	79.7	91.6	2	+ 2	+ 5
11570	9.3	75.7	96.8	2	0	- 1	11630	8.4	76.9	98.2	3	+ 4	- 2	11690	9.5	79.7	96.7	2	0	+ 3
11571	8.8	77.4	97.4	3	- 2	- 1	11631	8.2	74.5	97.5	3	+ 3	- 1	11691	9.5	73.7	97.7	2	+ 6	+ 5
11572†	6.5	74.7	99.3	3	0	- 4	11632	9.0	76.4	97.5	3	0	- 2	11692	9.0	75.8	98.1	4	+ 1	+ 1
11573	7.2	76.7	97.0	3	+ 1	- 7	11633	9.3	83.6	97.7	3	- 3	- 2	11693†	8.8	75.7	96.5	4	0	0
11574	9.4	79.9	97.0	3	- 6	+ 2	11634	9.3	74.1	97.4	3	0	+ 2	11694†	9.1	85.3	99.3	3	- 4	- 3
11575	9.5	85.8	97.0	3	- 4	- 2	11635	9.0	72.7	98.4	5	+ 6	+ 2	11695	8.8	75.4	97.8	3	+ 4	- 6
11576	9.2	79.9	97.0	3	- 5	+ 1	11636	9.3	86.2	98.6	3	- 1	- 3	11696	9.1	86.4	97.8	3	- 3	+ 4
11577	8.0	73.4	96.7	2	+ 4	+ 1	11637	9.0	77.4	97.1	4	0	0	11697	9.0	76.5	97.8	3	+ 4	0
11578	9.0	75.0	96.7	2	- 3	0	11638	9.5	75.7	96.8	2	- 5	0	11698	8.6	85.2	97.8	3	+ 2	0
11579	8.9	75.7	99.3	4	+ 1	+ 2	11639	9.0	78.3	97.7	3	+ 1	- 2	11699	9.0	75.1	96.7	2	+ 2	- 3
11580	7.5	76.5	99.3	4	+ 5	+ 2	11640	9.5	86.3	97.7	2	- 1	- 2	11700	9.4	75.7	96.7	2	+ 4	+ 3



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
11701	8.3	74.4	97.7	2	+ 6	- 5	11761†	8.0	76.5	98.2	2	+ 1	- 3	11821	9.2	84.4	98.4	4	- 1	- 2
11702	9.0	75.0	96.7	3	0	0	11762	8.2	76.4	98.2	2	+ 6	0	11822	9.0	82.2	99.1	4	+ 4	- 2
11703	9.4	78.9	96.7	2	- 4	- 1	11763	9.5	73.7	96.9	5	+ 3	0	11823	8.5	74.5	98.4	4	+ 1	0
11704	9.1	79.5	96.7	3	0	0	11764	9.3	85.7	98.2	2	- 1	- 3	11824	9.2	92.7	01.3	3	- 6	+ 5
11705	9.4	76.1	99.1	3	- 3	+ 2	11765†	8.0	74.2	96.9	5	0	+ 2	11825	9.3	74.0	95.6	2	- 3	+ 3
11706	8.0	77.9	97.8	3	+ 2	+ 1	11766	9.1	86.1	97.7	2	+ 3	- 1	11826	8.3	74.7	98.7	3	- 1	- 2
11707	9.0	74.7	96.7	3	+ 3	- 1	11767	7.9	74.9	96.7	2	- 1	- 1	11827	9.5	75.8	95.6	2	+ 6	+ 2
11708	9.1	73.7	96.1	3	+ 1	+ 2	11768	9.0	78.1	98.2	2	+ 4	- 2	11828	8.9	76.7	93.6	2	0	0
11709	9.0	76.0	99.1	3	+ 1	+ 1	11769	8.8	76.7	97.9	5	+ 1	- 1	11829†	8.0	75.4	99.7	4	- 1	- 2
11710	9.2	81.7	98.2	2	0	+ 2	11770	9.4	84.2	96.7	4	- 4	+ 1	11830	8.8	78.0	98.7	3	- 1	+ 3
11711	9.5	91.7	97.8	3	+ 1	0	11771	9.1	86.1	96.7	4	- 4	+ 1	11831	8.9	75.7	98.7	3	+ 2	+ 1
11712	9.2	83.0	98.2	2	+ 1	0	11772	7.9	78.0	98.2	2	+ 2	+ 3	11832	9.4	76.8	98.7	3	+ 1	0
11713	9.2	80.7	97.8	3	+ 4	+ 1	11773	8.8	78.2	97.9	5	0	- 2	11833	9.5	79.8	01.3	3	+ 1	- 1
11714	9.5	78.2	02.0	3	- 4	+ 6	11774	8.9	79.7	97.7	4	0	0	11834	8.9	78.5	95.6	2	+ 1	+ 2
11715†	4.4	76.5	02.0	3	0	+ 1	11775	9.3	85.7	96.7	4	+ 2	0	11835	9.2	85.4	98.7	3	- 3	- 1
11716	9.2	80.8	98.2	2	0	- 1	11776	9.2	86.7	97.7	2	- 3	0	11836	9.2	76.2	95.6	2	+ 2	+ 1
11717	8.5	79.4	02.0	3	+ 4	+ 2	11777	9.5	74.8	96.7	4	- 3	+ 1	11837	9.0	87.2	98.4	4	- 4	+ 1
11718†	9.5	80.9	02.0	3	- 10	+ 10	11778	9.5	84.3	96.7	4	+ 4	+ 1	11838	9.0	74.7	98.4	3	- 3	+ 2
11719	9.4	74.7	96.1	3	+ 1	- 2	11779	8.3	74.7	96.7	2	+ 8	+ 3	11839	9.3	87.1	97.7	2	- 1	+ 3
11720	9.3	79.3	99.1	3	+ 2	0	11780	9.4	72.7	98.2	2	- 2	+ 2	11840	9.2	88.1	93.6	2	+ 2	0
11721	9.3	74.8	98.2	2	+ 8	- 3	11781	9.1	91.4	98.2	2	- 5	- 1	11841	7.7	74.7	97.9	4	- 1	- 1
11722	9.3	73.5	96.1	3	- 1	- 1	11782	9.3	83.8	96.7	2	0	+ 2	11842	8.5	74.7	97.7	2	- 2	- 2
11723	9.0	74.0	99.0	4	- 5	- 1	11783†	...	...	...	...	...	...	11843†	6.1	73.5	99.3	3	+ 5	0
11724	9.2	87.3	97.8	3	- 4	0	11784	9.1	85.8	96.7	2	0	+ 1	11844	9.3	86.7	93.6	2	+ 1	0
11725	9.3	78.7	98.2	2	+ 1	- 3	11785	8.3	73.7	96.7	4	+ 5	- 1	11845	9.3	87.7	99.3	3	- 2	0
11726	9.1	79.9	97.7	2	+ 1	+ 3	11786	9.4	80.8	97.7	4	- 9	- 2	11846†	...	...	...	...	...	...
11727	9.2	73.3	98.2	2	- 3	0	11787	9.5	76.4	97.7	2	- 4	0	11847	9.4	87.3	01.6	2	- 6	0
11728	9.4	87.3	97.7	2	- 1	+ 4	11788	9.2	90.3	98.2	2	+ 4	+ 2	11848	9.0	80.8	96.3	3	+ 1	+ 1
11729	9.0	73.7	97.7	4	- 1	0	11789	8.7	78.1	97.7	4	+ 2	+ 1	11849	9.0	72.7	96.3	3	- 7	- 1
11730	9.0	77.7	97.7	2	+ 4	+ 2	11790	8.1	80.8	96.7	4	- 1	+ 1	11850	9.4	83.8	97.7	2	- 7	+ 6
11731	9.5	87.8	97.8	3	- 9	+ 6	11791	8.7	84.7	97.7	2	+ 5	+ 1	11851	9.2	83.8	96.3	3	+ 1	+ 4
11732	9.1	83.7	99.1	3	+ 4	+ 2	11792	9.5	74.0	96.7	2	+ 2	+ 1	11852	8.7	78.5	97.7	2	+ 2	0
11733	8.3	75.3	98.2	2	+ 1	+ 1	11793	9.2	76.1	98.2	2	- 1	+ 4	11853†	5.0	79.0	96.3	3	+ 1	- 5
11734	9.3	83.8	99.1	3	+ 5	+ 4	11794	9.4	86.2	95.6	2	- 4	+ 1	11854	9.0	77.2	98.9	4	+ 2	0
11735	9.4	76.1	98.0	3	- 5	- 1	11795	9.4	82.7	95.6	2	0	- 2	11855	8.0	75.7	98.3	3	+ 3	+ 1
11736	9.0	78.9	96.7	2	0	- 1	11796	9.5	87.7	98.2	2	- 2	- 2	11856	9.5	73.7	93.6	3	+ 2	- 1
11737	8.9	77.0	99.1	3	+ 4	+ 2	11797	9.5	87.7	93.6	2	- 5	- 4	11857	9.0	78.6	97.7	2	+ 1	0
11738†	8.4	74.1	97.8	3	- 1	- 3	11798	9.5	74.7	96.7	2	- 1	+ 2	11858	9.2	84.7	98.3	3	+ 2	- 1
11739	9.3	77.8	99.0	4	0	+ 3	11799	9.3	79.7	98.2	2	- 6	+ 5	11859	9.3	88.3	96.3	3	+ 4	- 1
11740	9.2	84.1	98.2	2	0	+ 3	11800†	9.5	73.7	98.2	2	- 11	- 4	11860	8.9	86.7	98.3	3	- 3	+ 1
11741	9.2	84.7	01.6	2	- 2	+ 1	11801	9.1	86.7	98.2	2	+ 2	0	11861	9.0	92.7	01.6	2	- 3	- 6
11742	9.4	87.0	99.1	3	- 1	0	11802	9.1	86.7	98.2	2	+ 2	- 1	11862	9.1	79.7	97.7	2	- 2	0
11743	9.2	80.7	97.8	3	+ 2	- 3	11803	9.1	75.1	98.0	3	+ 2	- 4	11863	8.8	78.5	99.3	3	+ 1	0
11744†	9.5	90.7	97.8	3	- 12	+ 2	11804	9.5	86.7	96.7	2	- 3	- 2	11864	8.3	80.5	97.7	2	+ 1	+ 2
11745	9.5	86.7	99.1	3	0	- 3	11805	9.0	74.6	98.2	2	- 3	- 2	11865	8.7	73.1	96.3	3	+ 1	+ 1
11746	9.1	76.1	98.2	2	+ 1	0	11806	8.0	76.7	95.6	2	+ 2	- 2	11866	9.5	74.2	98.9	4	+ 3	+ 3
11747	9.4	75.5	97.7	4	- 6	- 1	11807	9.2	85.7	93.6	2	+ 3	+ 2	11867	9.1	83.7	96.3	3	- 1	+ 1
11748	9.0	74.4	99.5	3	- 1	0	11808†	7.7	74.1	93.6	2	+ 11	+ 2	11868	8.0	79.0	98.9	4	+ 3	+ 1
11749	9.0	82.7	97.7	4	0	- 2	11809	8.1	92.7	01.6	2	+ 4	- 2	11869	9.1	84.7	96.3	3	+ 1	+ 1
11750	9.5	86.4	96.7	4	- 5	+ 2	11810	8.5	74.4	97.7	2	+ 2	0	11870	7.7	80.6	98.3	3	+ 3	0
11751	9.5	88.7	97.7	2	- 3	+ 2	11811	9.0	81.2	93.6	2	0	0	11871	9.3	91.7	99.3	3	+ 6	- 2
11752	7.0	74.6	96.7	4	+ 3	0	11812	8.2	75.7	93.6	2	+ 3	- 2	11872	9.2	91.7	93.6	2	+ 4	- 4
11753	9.4	87.1	97.7	2	0	+ 1	11813	9.1	83.3	93.6	2	- 1	+ 1	11873	6.6	81.8	97.7	2	+ 6	0
11754	7.0	74.1	98.2	2	+ 2	- 3	11814	8.0	75.3	96.7	2	+ 4	- 2	11874	9.2	87.8	95.6	2	- 9	+ 2
11755	8.0	76.5	97.7	2	+ 4	- 2	11815	9.4	84.7	96.7	2	- 8	- 1	11875	8.7	83.2	98.3	3	- 2	- 2
11756	9.5	77.8	97.7	4	- 4	0	11816	7.5	76.6	96.7	3	+ 5	- 1	11876	9.4	91.7	93.6	2	- 4	+ 4
11757	9.0	74.7	97.7	2	+ 3	- 2	11817	8.5	77.2	98.0	3	+ 4	- 4	11877	9.5	81.8	95.6	2	- 6	+ 3
11758	9.4	83.2	98.2	2	- 8	- 6	11818	8.9	79.3	95.6	2	- 1	+ 1	11878	9.3	82.4	93.6	2	- 3	- 2
11759	9.4	77.8	96.9	5	+ 1	+ 2	11819	9.1	74.4	97.7	2	+ 6	+ 2	11879	9.2	87.7	95.6	2	+ 3	- 3
11760	9.3	79.8	98.2	2	- 6	+ 6	11820	9.0	76.7	95.6	2	+ 2	0	11880	9.0	77.4	99.3	3	+ 4	0



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No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
11881	9.4	82.7	93.6	2	- 3	+ 2	11941†	7.0	74.2	98.0	4	+23	+ 7	12001	8.5	74.1	95.3	2	0	+ 3
11882	9.5	93.4	98.3	3	+ 1	+ 2	11942	9.2	84.7	95.4	3	- 3	- 1	12002	9.5	74.1	96.9	5	- 2	- 2
11883	9.5	89.1	98.3	3	+ 2	+ 1	11943	8.7	75.1	97.7	2	- 1	+ 1	12003	9.4	74.9	98.9	4	0	+ 1
11884†	9.2	87.8	93.6	2	-14	+ 2	11944	9.3	87.3	99.3	3	+ 3	0	12004	9.5	78.8	98.9	4	- 9	+ 2
11885	8.8	87.0	99.3	3	0	- 2	11945	9.4	85.2	96.8	3	- 9	0	12005	8.4	75.0	95.3	2	+ 7	+ 3
11886†	9.5	81.8	01.6	2	-36	+ 1	11946	9.4	80.4	96.8	3	- 7	+ 2	12006	9.5	84.7	98.3	3	- 3	+ 4
11887	7.5	88.7	97.7	2	+ 2	- 1	11947	9.4	82.3	96.8	3	- 8	- 1	12007	9.5	83.7	97.8	5	+ 4	0
11888	9.0	81.9	97.7	2	+ 3	- 3	11948	9.0	78.0	01.6	2	0	- 1	12008	9.4	83.1	98.3	3	- 3	+ 5
11889	9.1	80.8	97.7	2	- 3	+ 1	11949	9.0	74.7	98.3	3	+ 2	- 1	12009	9.1	80.6	97.8	4	+ 1	0
11890	9.0	80.8	99.3	3	+ 2	- 1	11950	9.5	73.7	99.3	3	- 4	+ 1	12010	9.1	78.1	98.3	3	+ 1	- 2
11891	8.0	83.7	98.3	3	- 1	- 4	11951	9.2	73.7	97.7	2	+ 2	0	12011	8.3	74.5	96.8	3	0	- 1
11892	9.3	82.7	98.9	4	- 4	0	11952†	...	...	...	...	...	...	12012	9.4	79.0	98.3	3	- 1	0
11893	7.0	83.1	98.3	3	+ 4	0	11953	9.4	87.8	99.3	3	- 6	- 2	12013	7.6	75.3	99.3	3	+ 6	- 5
11894	9.1	82.0	99.3	3	- 3	+ 3	11954	9.4	83.2	97.7	2	- 2	0	12014	9.4	75.2	98.2	4	0	0
11895	8.6	88.7	93.6	2	+ 4	0	11955	9.1	86.8	95.4	3	+ 5	+ 1	12015	8.8	84.7	96.8	3	+ 4	0
11896	9.1	82.1	97.7	2	+ 3	- 1	11956	7.7	79.8	98.9	4	+ 5	+ 1	12016	9.5	72.7	96.8	3	- 6	- 1
11897	9.0	87.2	98.3	3	- 6	+ 2	11957	9.5	86.7	96.8	3	+ 4	- 4	12017	7.8	75.5	95.3	2	+ 4	0
11898†	5.3	Fund.	99.3	3	+ 2	- 1	11958	8.3	80.0	98.3	3	+ 7	0	12018	9.0	77.7	97.8	5	+ 2	+ 2
11899	9.3	83.7	95.6	2	+ 2	+ 1	11959	8.5	74.0	95.4	3	0	- 3	12019	9.3	85.4	98.3	3	- 2	- 1
11900	9.2	91.7	99.3	3	- 4	0	11960	9.4	78.8	96.8	3	- 4	- 1	12020	8.9	79.1	96.8	3	+ 3	+ 3
11901	9.2	85.0	99.3	3	- 4	+ 2	11961	8.8	73.4	96.8	3	- 1	+ 1	12021	8.5	77.8	99.2	2	+ 2	0
11902	9.5	81.8	96.7	3	- 1	+ 2	11962	9.0	75.8	95.4	3	+ 2	- 2	12022	8.8	76.2	96.8	3	0	+ 1
11903	8.4	82.2	93.6	2	+ 2	+ 1	11963	8.8	76.4	95.4	3	+ 5	- 3	12023	9.3	83.7	97.8	4	- 1	- 1
11904†	8.0	81.5	99.3	3	+12	- 4	11964	9.2	85.5	95.4	3	+ 1	+ 4	12024	9.0	78.9	98.1	5	0	- 2
11905	9.3	83.7	99.3	3	+ 2	0	11965	6.7	75.7	99.3	3	+ 6	+ 1	12025	9.0	74.0	97.8	4	+ 4	- 1
11906	8.9	81.9	97.4	4	- 1	+ 1	11966†	8.5	74.7	99.3	3	+12	+ 1	12026	9.5	72.7	97.8	4	- 5	- 1
11907	9.3	85.8	98.9	4	- 3	0	11967	9.5	76.7	99.3	3	- 6	- 1	12027	9.5	86.1	99.2	2	- 2	0
11908	8.9	82.2	97.7	2	+ 5	- 2	11968	8.1	75.7	97.7	2	+ 5	0	12028	8.8	77.0	99.3	3	- 1	- 1
11909	9.4	82.4	95.6	2	+ 1	+ 2	11969	9.1	88.7	01.6	2	+ 1	0	12029	7.7	76.0	99.2	2	+ 2	+ 2
11910	9.0	80.3	95.6	2	0	0	11970	8.3	85.2	01.6	2	+ 4	- 1	12030	9.4	89.5	99.3	3	- 2	+ 1
11911	9.2	90.7	98.3	3	- 4	+ 3	11971	8.9	78.3	97.7	2	0	0	12031	7.5	77.8	99.3	3	+ 9	- 1
11912	8.8	83.7	95.4	3	+ 5	- 1	11972	8.5	79.3	99.3	3	+ 9	0	12032	8.0	78.2	97.8	4	+ 6	- 1
11913	9.2	87.3	98.3	3	- 7	+ 2	11973	9.4	85.0	97.7	2	0	- 2	12033	9.5	72.7	96.8	3	- 1	+ 1
11914	9.3	86.7	99.3	3	- 2	- 1	11974	9.3	74.4	98.3	3	+ 4	- 4	12034	9.2	83.5	96.1	3	+ 2	+ 2
11915	8.7	78.5	98.0	4	+ 3	+ 1	11975	9.5	77.0	96.7	3	+ 2	0	12035	7.1	75.1	96.3	2	+ 5	+ 1
11916	9.2	82.8	97.7	2	- 6	+ 4	11976	9.1	75.3	95.4	3	+ 3	- 1	12036†	...	...	...	...	...	...
11917	8.8	74.1	96.6	4	+ 1	- 3	11977	9.2	78.4	97.7	2	+ 2	- 1	12037	8.0	83.8	99.2	2	0	0
11918	8.0	78.6	98.3	3	+ 3	+ 2	11978	9.3	74.4	95.4	3	0	+ 1	12038	9.2	76.7	96.8	3	+ 3	0
11919	7.2	76.5	99.3	3	+ 4	0	11979	9.0	78.5	95.4	3	0	- 1	12039	9.0	76.5	96.8	3	+ 1	- 1
11920†	9.5	81.8	99.3	3	-21	+ 9	11980	9.1	87.1	97.7	2	0	+ 1	12040	9.4	75.7	97.7	4	- 1	+ 2
11921	8.4	78.7	98.3	3	0	0	11981	9.2	85.8	95.4	3	- 5	+ 1	12041	7.7	74.7	99.3	3	+ 5	+ 1
11922	9.2	86.2	97.7	2	0	+ 2	11982	9.1	86.7	97.1	3	+ 3	+ 1	12042	8.1	75.3	98.3	3	+ 4	- 1
11923	8.0	75.7	99.3	3	+ 5	+ 1	11983	9.2	86.4	97.1	3	+ 1	- 3	12043	8.5	75.7	95.3	2	+ 2	+ 2
11924	9.4	79.7	98.9	4	- 5	- 4	11984†	9.4	79.5	97.1	3	-16	+ 1	12044	8.0	80.5	97.8	4	+ 4	0
11925	9.2	86.8	98.0	4	- 1	- 5	11985	9.5	78.8	99.3	6	- 7	- 4	12045	8.9	78.5	95.3	2	0	- 4
11926	9.1	86.3	99.3	3	0	- 4	11986	9.2	83.8	99.0	5	+ 1	+ 3	12046	8.6	79.8	97.8	4	+ 3	- 2
11927	8.3	74.1	97.7	2	- 1	0	11987	9.5	74.7	97.1	3	0	+ 3	12047†	...	...	...	...	...	...
11928	9.2	81.6	99.3	3	- 9	+ 3	11988	9.2	85.3	99.0	5	+ 1	0	12048†	9.3	82.2	95.3	2	- 8	-10
11929	9.3	75.7	97.7	2	+ 2	+ 1	11989	9.4	77.5	99.0	5	0	- 2	12049	8.8	79.4	98.3	3	0	0
11930	9.1	84.7	97.7	2	+ 6	0	11990	8.8	78.0	99.0	5	+ 3	- 4	12050	7.0	77.6	95.8	4	+ 1	- 1
11931	9.3	86.8	97.7	2	- 2	0	11991	9.4	77.9	97.1	3	+ 2	+ 1	12051	9.4	84.7	98.3	3	+ 2	0
11932	9.3	74.8	98.9	4	0	- 1	11992	9.2	78.4	98.9	4	+ 2	0	12052	9.3	84.8	97.8	4	- 1	- 3
11933	9.4	84.5	97.7	2	+ 1	- 1	11993	9.0	74.5	97.0	4	- 4	+ 4	12053	9.5	90.7	99.3	3	- 2	+ 3
11934	9.0	92.7	01.6	2	- 6	+ 5	11994	9.5	90.7	98.9	4	- 8	+ 2	12054	9.5	84.5	95.3	2	+ 3	- 5
11935	9.3	81.8	95.0	4	- 7	+ 3	11995	9.1	84.7	97.8	3	- 1	+ 3	12055	9.5	82.8	98.3	3	- 2	+ 2
11936	9.2	78.3	99.3	3	- 6	+ 1	11996†	9.5	73.7	98.3	3	+ 4	+10	12056	9.5	73.7	97.8	4	- 2	+ 4
11937	9.3	81.7	96.8	3	+ 1	0	11997	9.0	75.0	98.3	3	- 5	0	12057†	9.5	79.1	95.3	2	-14	0
11938	9.2	86.2	95.4	3	- 2	0	11998	8.5	75.3	98.3	3	+ 5	- 1	12058†	9.1	83.0	96.9	5	+ 4	+10
11939	9.4	78.6	98.9	4	0	- 1	11999	8.8	75.0	97.0	4	+ 4	0	12059	7.0	75.8	98.3	3	+ 7	0
11940	9.3	77.6	98.9	4	+ 2	+ 1	12000	9.0	78.5	97.7	4	+ 2	- 2	12060	8.7	77.8	99.2	2	+ 5	+ 2



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
12061	9.4	78.6	95.1	3	-2	+2	12121	6.3	75.0	95.7	2	+7	-2	12181	9.3	89.3	96.8	4	-5	-4
12062	8.5	78.0	96.0	4	+2	-1	12122	8.4	74.1	97.3	3	+2	-3	12182	9.1	82.3	96.4	3	+1	+4
12063	9.2	86.8	95.1	3	+1	-1	12123	9.3	82.8	95.3	2	0	+2	12183	9.4	74.7	95.4	3	0	0
12064	8.5	74.7	96.9	5	-2	0	12124†	9.2	90.7	97.3	3	-12	-1	12184	8.9	75.4	98.5	4	+1	+2
12065	9.5	73.7	99.3	3	-5	0	12125	9.4	77.8	95.7	2	-6	-1	12185	8.1	74.5	99.3	3	+9	+2
12066	9.5	76.7	96.9	5	-6	-2	12126	9.2	86.8	97.3	3	-4	-1	12186	9.2	82.8	96.8	2	-6	+2
12067	9.5	85.8	99.2	2	-5	+2	12127†	9.5	74.7	95.3	2	-4	0	12187	8.9	73.7	99.3	3	+6	+1
12068	9.4	86.8	00.4	3	-1	+3	12128	8.8	77.3	95.3	2	+1	0	12188	9.0	74.3	98.3	2	+1	0
12069	8.2	75.2	97.1	6	+5	-2	12129	9.1	83.5	98.2	4	-1	-2	12189	8.5	76.8	96.8	2	+2	-2
12070	9.4	73.7	97.4	4	-1	-3	12130	8.1	74.3	95.7	2	0	-3	12190	9.5	86.3	97.7	2	-6	0
12071	9.4	84.3	95.1	3	-3	+1	12131	9.3	86.8	97.9	4	-5	+6	12191†	9.4	84.2	95.7	2	-11	+2
12072	9.4	78.3	96.9	5	-7	+1	12132	9.0	79.5	95.3	2	0	+4	12192	9.0	74.5	95.7	2	+3	-2
12073	9.0	81.0	95.1	2	-3	-1	12133	9.2	81.8	99.3	3	-1	+1	12193	9.5	86.7	96.8	2	-2	-2
12074	9.0	78.7	96.9	5	-1	-2	12134†	...	...	...	...	...	...	12194†	9.5	87.8	97.7	2	-22	-1
12075	9.3	84.9	95.1	3	-2	-1	12135	8.7	92.7	97.7	3	-3	0	12195	9.5	86.8	96.7	3	-5	-1
12076†	9.0	88.8	95.3	2	-20	-1	12136	9.0	74.5	95.3	2	0	0	12196	8.6	76.0	93.7	2	+1	-3
12077	9.2	82.4	98.2	4	-3	-2	12137	9.3	85.8	97.7	4	-3	0	12197	9.1	87.8	98.3	2	-1	0
12078	9.1	81.8	99.3	3	0	+2	12138†	...	...	...	...	...	...	12198	9.3	85.7	93.7	2	-1	-1
12079	9.4	75.0	96.9	5	-3	+3	12139	9.3	75.2	98.3	3	0	+1	12199	8.0	75.2	95.7	2	0	-1
12080	9.3	85.8	98.3	3	0	-1	12140	9.5	81.8	95.7	2	0	+4	12200	9.0	77.0	96.8	2	0	0
12081	9.4	82.8	98.3	3	+8	+1	12141	9.3	77.5	95.3	2	0	+3	12201	9.5	81.8	98.3	2	-9	+3
12082	8.9	75.1	99.3	3	+4	0	12142	9.4	80.8	98.3	3	-5	+4	12202	9.5	79.8	01.6	2	-3	+2
12083	9.3	80.5	99.3	3	-1	+2	12143	9.4	82.8	95.7	2	0	+3	12203	8.9	75.8	98.1	3	-1	+1
12084	9.1	84.7	99.3	3	+1	-1	12144	9.1	81.3	98.2	4	+1	-2	12204	9.0	78.7	96.8	2	0	0
12085	9.2	89.3	98.3	3	-4	0	12145	9.2	84.0	98.3	3	+2	+2	12205	7.9	75.7	95.7	2	+1	0
12086	9.5	72.7	96.9	5	-1	-3	12146	9.2	76.6	98.2	4	+4	-1	12206	9.4	85.7	98.3	2	+3	+1
12087	9.4	86.0	99.3	3	+1	+3	12147	7.0	79.8	99.2	2	+2	+3	12207	9.3	74.1	93.7	2	-2	-2
12088	9.1	93.7	95.3	2	-1	+1	12148	9.3	88.2	95.3	2	-5	+2	12208	9.4	88.3	96.8	2	-8	+1
12089	9.5	76.8	98.2	4	-1	+1	12149	9.5	88.8	99.3	3	+2	-1	12209	9.4	85.7	98.3	2	-5	0
12090	9.0	92.7	98.3	3	+1	+2	12150	9.3	86.3	95.3	2	+1	-1	12210	9.4	82.8	97.1	3	-2	+6
12091	8.0	75.7	96.0	4	+2	+1	12151	9.2	89.2	98.3	3	+6	-2	12211	9.3	87.4	98.3	2	-1	-2
12092	9.0	76.1	95.7	2	+1	0	12152	9.5	84.8	99.0	4	-6	-1	12212	9.2	80.7	95.7	2	-1	0
12093	9.5	74.4	95.3	2	-3	+2	12153	9.0	78.6	98.3	3	-1	+2	12213	9.2	86.1	98.3	2	+5	+3
12094	8.9	77.7	97.3	3	+3	-3	12154	8.9	82.0	99.2	2	+1	+2	12214	9.4	74.1	97.7	2	+1	-1
12095	9.0	76.6	98.3	3	-2	-1	12155	9.1	84.7	95.3	2	+3	0	12215	9.3	87.5	96.8	2	0	0
12096	9.5	82.8	95.7	2	+2	0	12156	9.1	84.7	96.4	3	+1	0	12216	8.8	76.4	97.7	2	+2	-2
12097	9.4	72.7	95.7	2	0	-1	12157	8.8	74.2	99.0	4	+5	+1	12217	9.3	87.3	95.7	2	-9	0
12098	9.5	80.0	97.3	3	0	+1	12158	8.9	74.7	97.7	3	0	-5	12218	9.1	82.8	97.7	2	-8	0
12099†	8.5	76.1	95.7	2	-6	-12	12159	9.1	81.4	99.2	2	-2	-1	12219	8.8	75.8	93.7	2	+4	+1
12100†	...	...	...	...	...	...	12160	9.2	86.7	98.3	3	+4	-3	12220†	9.2	89.3	95.7	2	-16	0
12101	9.5	72.6	98.3	3	-7	+7	12161†	9.1	77.1	95.3	2	+9	-12	12221	8.7	80.1	01.6	2	-1	+4
12102	9.4	77.8	97.3	3	-3	0	12162	9.2	83.8	98.3	3	-1	-1	12222	8.7	73.5	98.3	2	+4	+3
12103	8.0	74.2	98.3	3	+4	-1	12163	9.1	77.3	96.4	4	0	+1	12223	8.9	79.5	97.7	2	+1	0
12104	9.2	84.8	97.3	3	+2	-2	12164	8.9	79.5	95.3	2	0	+1	12224	8.8	77.8	97.1	3	0	+2
12105	9.5	83.1	97.3	3	-6	+1	12165	9.5	87.7	98.1	5	+2	-5	12225	8.8	77.7	98.1	3	+5	+3
12106	8.1	75.4	98.3	3	+5	-1	12166	8.4	75.9	93.7	2	+7	+1	12226†	7.5	83.7	98.3	2	+11	-1
12107	9.2	84.1	95.3	2	-2	+2	12167	9.1	75.0	96.4	4	+7	-1	12227	9.3	86.2	97.7	2	+2	-3
12108	8.9	74.7	95.3	2	+4	0	12168	9.2	83.8	98.3	3	-3	0	12228	8.5	78.8	93.7	2	+1	0
12109	9.5	86.8	95.3	2	+5	-2	12169	9.3	84.7	98.5	4	+1	-2	12229	9.5	93.8	94.4	4	+9	+9
12110	9.4	86.7	99.2	2	+1	-1	12170	9.3	82.8	98.5	4	-2	-1	12230	9.5	78.1	96.8	2	-6	0
12111	9.4	80.8	98.2	3	-9	+2	12171	9.0	74.7	96.4	3	+6	+1	12231	8.9	82.2	96.8	2	+4	0
12112	8.5	93.7	99.2	2	-4	0	12172	9.3	87.8	98.5	4	-3	-1	12232	9.4	82.8	95.1	5	+1	+1
12113	9.4	78.5	95.3	2	0	-2	12173	9.4	81.1	96.4	3	-1	-3	12233†	9.5	93.8	95.1	5	+10	+1
12114	8.5	78.3	95.3	2	+3	0	12174†	6.1	79.4	97.7	2	+4	0	12234	8.7	93.7	94.4	4	0	0
12115	9.3	88.8	99.4	3	-2	-3	12175†	9.4	87.3	97.7	2	-10	0	12235	9.5	93.7	01.6	2	+1	+3
12116	9.0	78.9	97.7	3	0	+1	12176	8.5	74.3	97.7	2	0	+2	12236	9.4	81.8	95.5	4	-9	+1
12117	9.4	88.8	99.2	2	0	+3	12177	9.3	90.8	96.4	3	-8	-5	12237	6.8	81.4	97.7	2	+5	0
12118	9.2	86.2	97.3	3	+1	-1	12178	9.1	77.2	96.4	3	-3	-3	12238	8.7	82.4	94.4	4	+4	-2
12119	9.4	85.8	95.3	2	-2	+1	12179	9.0	75.3	96.4	4	+1	-2	12239	9.2	81.3	95.1	5	0	-2
12120	8.8	75.2	98.2	4	+4	0	12180	7.7	76.1	96.4	3	+6	+4	12240	9.0	86.0	97.7	2	-3	-1



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
12241	9.4	82.8	98.3	2	0	+4	12301	7.1	74.8	95.9	4	+9	0	12361	9.5	86.8	97.7	2	-7	-3
12242	7.0	84.5	01.6	2	+6	+1	12302	9.4	74.6	96.5	4	+1	0	12362	9.5	72.7	95.1	3	+1	0
12243	8.1	77.7	98.3	2	+3	0	12303	9.1	84.8	96.5	4	+4	-2	12363	9.0	76.7	97.7	2	+7	+3
12244	8.0	82.7	94.4	4	0	+1	12304	9.5	84.8	96.8	2	-2	0	12364	9.4	86.8	94.7	3	+2	+2
12245†	9.5	85.8	94.4	4	-11	-1	12305	9.4	84.2	97.7	2	-3	-7	12365	9.4	81.2	95.3	2	-6	+1
12246	8.9	81.0	96.8	2	+6	0	12306	9.4	77.8	97.7	2	-2	-1	12366	9.3	85.8	99.4	3	-4	-1
12247	8.0	82.6	96.8	2	+6	-1	12307	8.7	80.4	96.5	4	+4	+3	12367	9.5	75.8	96.7	4	-3	0
12248	8.4	83.7	98.3	2	+1	-3	12308†	...	...	...	...	...	...	12368	9.5	79.8	95.9	5	-7	0
12249	8.9	81.7	02.0	3	-5	0	12309	9.4	75.0	95.9	4	-1	+1	12369	8.9	77.2	01.7	2	-3	-1
12250†	9.5	83.7	94.7	3	-23	-2	12310	8.5	75.6	96.5	4	+5	+2	12370†	9.4	83.3	01.7	2	-12	+3
12251	8.2	83.7	02.0	3	-1	-3	12311	9.4	85.3	98.2	3	-8	+2	12371	8.5	92.7	95.3	2	+5	0
12252	8.1	83.7	96.1	3	+7	-1	12312†	9.4	83.3	95.9	4	-22	+2	12372†	8.2	77.4	95.3	2	+11	+1
12253	8.1	87.3	98.2	2	+4	0	12313	9.0	92.7	94.7	3	-1	+2	12373	8.1	80.4	97.7	2	+7	-3
12254†	3.0	Fund.	97.0	3	+5	-4	12314	9.0	77.5	96.4	3	-3	+2	12374	9.0	77.7	95.9	5	+4	-1
12255	9.3	79.4	96.0	3	0	0	12315	9.5	83.3	96.8	2	-9	+2	12375†	9.5	82.3	96.1	3	-17	-2
12256	9.3	77.7	97.8	2	0	0	12316	9.2	87.1	98.2	3	0	0	12376	9.4	88.3	93.8	2	-8	-1
12257†	9.5	82.8	96.0	3	-20	0	12317	9.5	74.8	98.2	3	0	+1	12377	9.4	84.4	97.7	2	+1	-3
12258	7.9	87.1	97.0	3	0	-3	12318	9.3	85.4	97.3	4	+2	-3	12378	9.4	76.9	95.1	3	+2	+1
12259	8.8	83.7	96.1	3	-4	0	12319	9.5	75.7	97.7	2	+3	+6	12379	8.5	75.7	93.8	2	+5	-2
12260	8.8	80.4	94.7	3	0	0	12320	9.1	84.1	98.3	2	+1	0	12380	9.5	82.3	95.1	5	-4	+2
12261	9.2	86.8	94.7	3	+6	0	12321	9.5	87.2	96.1	3	+5	0	12381	7.8	73.2	95.1	5	+2	-2
12262	9.0	95.1	97.7	2	+7	0	12322	9.5	72.7	98.3	2	+1	0	12382	8.3	74.2	95.3	2	+4	0
12263	9.1	81.1	96.8	2	+2	0	12323†	9.5	72.8	98.3	2	-11	-1	12383	7.6	77.5	93.8	2	+6	0
12264	9.3	86.7	94.7	3	+5	-5	12324	9.1	78.7	94.7	3	+2	+1	12384	9.3	84.1	97.7	2	-5	+2
12265	8.2	83.4	94.7	3	+4	+2	12325	8.0	76.6	01.6	2	+3	0	12385	8.5	74.6	97.7	2	-1	-1
12266	8.5	80.8	96.8	2	+2	-4	12326	9.5	84.8	97.1	3	-8	+3	12386†	9.5	75.7	97.7	2	+10	-5
12267	8.9	82.5	96.0	3	+7	+2	12327	9.4	87.8	98.1	3	0	-1	12387†	9.3	87.8	93.8	2	-15	0
12268	9.3	81.8	98.2	2	+1	0	12328	8.8	79.6	97.7	2	+2	-2	12388	9.0	75.9	95.9	5	+2	0
12269	9.3	87.8	98.2	2	-7	0	12329	9.2	86.8	98.3	2	+4	-1	12389	9.2	84.1	95.3	2	+5	+2
12270†	9.5	83.7	96.8	2	-3	0	12330	9.5	86.8	98.3	2	-8	+4	12390†	9.5	82.8	95.1	5	-12	+5
12271	7.5	78.5	94.7	3	+3	-3	12331	9.1	82.8	96.1	3	+3	-2	12391	9.1	79.5	95.1	5	+1	0
12272	7.0	77.1	97.7	2	+6	0	12332	8.9	76.3	95.5	3	+1	0	12392	9.5	81.8	95.3	2	-4	+5
12273	9.4	80.2	97.7	2	-5	-2	12333	9.2	82.0	98.7	3	+1	0	12393	9.3	81.8	95.3	2	+3	-2
12274	8.7	76.6	97.7	2	+1	-3	12334	9.5	80.7	94.7	3	-1	-1	12394	9.4	81.8	95.1	5	-3	-1
12275	8.3	85.1	01.6	2	+6	+9	12335†	9.5	81.8	98.7	3	-12	+6	12395	9.1	75.5	97.7	2	+5	-1
12276	9.0	86.2	96.8	2	+8	-3	12336	9.5	81.8	96.1	3	-6	-5	12396	9.5	86.7	96.7	2	-2	-5
12277	9.0	84.2	96.8	2	+5	0	12337	7.8	77.0	98.7	3	+4	0	12397	9.4	79.1	93.8	2	0	+2
12278	8.5	76.4	97.7	2	0	0	12338	9.4	88.3	98.7	3	-3	-1	12398	8.4	76.3	97.7	2	+2	-3
12279	9.1	85.8	97.1	3	+7	+1	12339	7.8	93.6	01.3	3	+6	-1	12399	9.5	80.2	96.4	3	-2	-6
12280	9.3	78.0	96.0	3	+3	+1	12340	9.3	89.8	98.7	3	-3	+1	12400	9.0	75.7	93.8	2	+7	-1
12281	8.4	70.0	98.2	2	+9	+3	12341	8.8	75.8	97.5	5	+2	0	12401	9.2	85.8	98.3	2	+3	0
12282	9.3	83.3	98.2	2	+2	+3	12342	9.5	82.8	95.5	3	-2	+6	12402	8.3	74.3	93.8	2	+5	-4
12283	9.3	90.8	98.2	2	-1	+7	12343	7.6	78.7	01.3	3	0	+2	12403	9.4	86.8	96.7	3	-8	0
12284	9.0	87.8	98.2	2	+5	+4	12344	9.3	86.8	97.2	4	+3	-2	12404	9.2	82.8	95.7	4	+8	+8
12285	9.1	83.5	94.7	3	-1	+1	12345	9.5	78.1	94.7	3	+1	-1	12405	9.4	87.3	95.7	4	+1	-1
12286	9.0	76.7	98.2	2	+2	-1	12346	9.5	81.8	94.7	3	-2	+2	12406	8.1	79.8	95.0	3	+5	-3
12287	9.3	85.7	98.2	2	-2	+1	12347	9.5	73.7	95.3	2	0	-2	12407	8.5	80.7	02.0	3	+3	+3
12288	9.3	86.7	98.2	2	+5	-3	12348	8.6	79.3	97.7	2	+4	+1	12408	9.5	83.8	95.5	4	+4	+7
12289†	9.3	83.8	97.7	2	-15	0	12349	9.3	83.8	95.3	2	+2	0	12409	9.4	81.8	96.7	3	+4	+2
12290	8.7	73.1	94.7	3	+4	0	12350	9.5	73.7	93.8	2	-5	-7	12410	9.3	82.8	95.0	3	+3	+3
12291	8.5	75.7	98.1	3	0	+1	12351	8.7	75.7	97.7	2	+2	0	12411	8.8	74.1	96.4	3	+5	0
12292	9.0	77.3	98.2	2	+6	-6	12352†	8.6	75.3	94.7	3	+14	0	12412	9.3	75.5	96.7	3	-1	+1
12293†	9.4	81.8	98.2	2	-15	+8	12353	9.5	79.8	93.8	2	-2	+9	12413†	9.3	79.8	02.0	3	-21	+3
12294†	...	...	...	...	...	...	12354	8.2	76.0	94.7	3	+4	0	12414	8.5	74.5	96.4	3	+2	0
12295	9.4	87.8	97.1	3	-1	+2	12355	9.3	76.7	97.7	2	+3	+3	12415	8.4	79.5	94.1	3	+3	0
12296	8.1	75.4	98.2	3	+1	-4	12356	8.6	74.5	94.7	3	+1	-2	12416	8.9	84.2	93.8	2	+4	-1
12297	9.1	87.8	96.5	4	-5	-2	12357	9.2	86.8	93.8	2	0	-5	12417	9.4	84.8	96.4	3	0	0
12298	7.3	76.9	95.9	4	+2	-3	12358	7.2	77.6	97.7	2	+6	+1	12418	8.3	76.6	97.7	2	+4	-1
12299	9.3	77.3	96.8	2	+1	+8	12359	9.3	83.8	93.8	2	-2	0	12419	9.3	82.8	96.4	3	-2	+4
12300†	9.4	85.1	95.9	4	-11	+5	12360	9.5	86.8	97.7	2	-2	-3	12420	9.4	85.5	96.1	3	-7	+1



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
12421	9.5	73.8	95.3	2	+ 1	0	12481	7.3	75.6	97.7	2	+ 2	0	12541	9.2	84.3	95.3	2	- 3	+ 1
12422	9.0	75.1	96.4	3	- 1	0	12482†	9.4	82.8	91.6	2	- 11	- 1	12542†	9.5	79.8	99.2	2	- 11	+ 5
12423	9.1	85.3	97.7	2	- 5	+ 1	12483	8.4	80.6	96.4	3	- 2	- 9	12543	9.2	86.1	95.2	4	- 3	- 2
12424	9.3	88.3	93.8	2	- 2	+ 5	12484	9.5	73.7	95.3	2	- 5	+ 3	12544†	9.5	81.8	97.8	2	- 13	+ 4
12425†	6.5	74.1	97.7	2	+ 13	- 4	12485	9.3	86.8	91.6	2	+ 4	0	12545	9.0	78.3	95.3	2	+ 1	0
12426	8.4	79.1	91.6	2	- 1	0	12486†	9.5	85.3	95.3	2	- 10	- 1	12546	9.3	84.4	96.7	2	0	- 1
12427	9.3	79.3	91.6	2	0	+ 2	12487	9.5	87.8	93.8	2	- 3	- 3	12547	9.3	86.8	98.3	2	- 2	- 1
12428	9.0	80.6	91.6	2	- 3	0	12488	9.4	73.8	96.4	3	0	+ 2	12548	9.2	79.8	95.3	2	- 3	+ 2
12429	9.2	75.9	95.5	4	+ 1	+ 1	12489	8.5	84.6	91.6	2	- 3	- 1	12549	9.2	83.3	98.3	4	+ 2	+ 4
12430	9.0	84.8	96.4	3	- 2	+ 2	12490	9.4	88.1	96.4	3	- 6	+ 3	12550	8.7	84.5	95.2	4	- 4	- 4
12431	9.2	90.8	97.7	2	- 1	- 2	12491	9.0	74.4	96.4	3	+ 5	+ 1	12551	9.5	81.8	96.7	5	- 3	- 4
12432	9.4	83.3	97.7	2	+ 1	+ 1	12492	9.2	86.3	95.2	2	0	+ 1	12552	9.1	87.1	95.3	2	- 5	- 3
12433	9.5	77.7	96.4	3	- 3	0	12493	9.3	82.7	91.7	2	- 1	+ 4	12553	6.8	74.1	96.7	2	+ 4	- 9
12434	9.4	76.4	96.4	3	0	- 1	12494	9.2	79.8	97.7	2	- 7	- 2	12554	8.5	75.0	96.7	2	+ 9	+ 2
12435†	8.8	77.9	93.8	2	+ 5	+ 2	12495	9.2	77.5	95.3	2	+ 3	- 3	12555	8.5	75.0	99.2	2	+ 3	+ 3
12436	9.3	83.7	97.7	2	- 2	- 1	12496	9.3	83.7	96.4	3	- 7	- 2	12556	9.2	73.8	95.8	3	+ 3	0
12437	8.0	82.8	97.7	2	+ 2	- 2	12497	8.8	76.1	91.7	2	+ 2	0	12557	8.9	75.5	96.7	2	- 1	+ 1
12438	9.5	73.7	95.3	2	- 3	+ 2	12498	9.2	83.8	93.8	2	0	+ 1	12558	8.8	79.8	96.7	2	0	0
12439	8.9	74.5	95.7	4	+ 3	- 1	12499	9.5	82.8	96.1	3	- 7	+ 7	12559	9.4	86.3	96.7	2	+ 6	0
12440	9.0	81.8	97.7	2	- 1	+ 2	12500	9.4	84.8	96.4	3	- 8	+ 2	12560†	8.9	86.2	96.4	3	+ 11	+ 1
12441†	9.5	72.7	96.4	3	- 15	- 2	12501	9.4	86.3	97.1	3	+ 3	+ 1	12561	8.5	76.4	94.7	2	0	0
12442	8.1	79.2	97.7	2	+ 9	+ 2	12502†	9.5	85.8	96.5	3	- 13	+ 2	12562	9.4	86.7	96.4	3	+ 1	0
12443†	9.4	80.8	97.7	2	- 10	0	12503†	9.2	86.8	97.1	3	- 13	- 2	12563	8.7	77.0	99.2	2	- 1	- 1
12444	9.1	87.8	96.4	3	- 3	0	12504	9.3	84.4	96.0	4	- 2	+ 4	12564	9.5	73.7	97.1	4	- 1	- 1
12445	9.5	74.7	97.7	2	0	+ 2	12505†	...	...	...	...	...	...	12565	9.5	72.7	98.3	2	- 2	- 1
12446†	...	...	...	...	...	...	12506	8.9	76.1	96.1	5	+ 4	- 2	12566	8.4	74.5	94.7	2	+ 3	- 2
12447	9.0	74.7	96.8	4	+ 2	- 1	12507	9.3	84.5	97.1	3	0	+ 6	12567	9.4	86.3	96.8	2	- 6	0
12448	9.0	82.8	96.2	3	- 1	- 1	12508	9.1	76.9	96.5	3	+ 2	0	12568	9.2	84.1	98.3	2	- 3	- 1
12449	9.0	73.5	93.8	2	+ 6	- 2	12509	9.1	76.8	99.7	3	+ 1	+ 1	12569†	...	...	...	...	...	...
12450	9.3	82.8	94.7	4	- 1	+ 2	12510	9.4	82.3	95.0	3	0	- 1	12570	8.3	77.0	95.3	2	+ 5	0
12451	9.5	84.7	96.1	3	+ 4	+ 1	12511	9.5	88.8	95.4	3	- 5	- 6	12571	9.5	81.8	95.3	2	- 7	+ 3
12452	9.5	86.8	93.8	2	+ 5	- 3	12512	8.7	73.9	95.0	3	- 2	- 1	12572	8.0	82.8	99.2	2	+ 1	- 1
12453	8.4	74.6	95.8	4	+ 1	- 2	12513	9.0	77.5	98.3	2	+ 3	+ 2	12573	9.5	73.7	97.8	2	0	- 2
12454	9.5	86.8	97.7	2	+ 4	+ 2	12514	8.0	75.7	98.3	2	+ 2	- 1	12574†	8.0	76.4	96.7	2	+ 10	0
12455	8.7	77.8	97.7	2	+ 3	- 1	12515†	9.4	82.8	95.7	4	- 10	0	12575	9.1	85.8	96.8	2	+ 1	0
12456	9.4	85.7	93.8	2	+ 6	- 8	12516†	5.3	74.1	98.3	2	+ 7	0	12576	8.8	79.7	95.3	2	+ 2	- 1
12457	9.1	79.9	91.6	2	- 1	+ 2	12517	9.4	89.8	96.7	2	+ 3	+ 3	12577	9.2	82.0	97.4	3	+ 5	- 3
12458	9.4	81.8	93.8	2	- 9	0	12518	9.1	77.5	98.3	4	+ 1	0	12578	9.5	87.8	94.7	2	- 7	+ 1
12459	9.2	86.8	95.4	6	+ 2	+ 3	12519	9.4	86.1	95.3	2	0	0	12579	8.4	76.4	97.0	4	+ 5	+ 1
12460	9.3	76.8	96.1	3	+ 3	0	12520	9.1	86.8	98.3	4	+ 4	- 2	12580	9.5	84.1	98.3	2	- 6	- 1
12461	9.0	76.9	96.8	4	+ 5	- 2	12521	9.1	79.9	96.7	5	- 1	+ 1	12581	9.0	80.2	99.2	2	0	+ 3
12462†	5.0	74.0	94.7	4	+ 10	- 2	12522	9.3	85.0	96.7	2	0	+ 1	12582	9.0	74.5	97.4	3	+ 1	- 1
12463	9.5	93.6	91.7	2	+ 1	+ 2	12523	9.5	81.8	96.7	2	- 7	0	12583	9.5	84.8	98.3	2	- 7	+ 1
12464	9.5	80.7	95.8	4	- 7	- 2	12524	9.5	85.3	96.4	3	- 5	+ 4	12584	9.0	79.8	95.1	3	- 3	+ 2
12465	9.0	77.2	97.7	2	0	- 1	12525	9.3	86.8	96.4	3	+ 7	- 8	12585	8.9	73.0	94.7	2	+ 3	0
12466	9.2	87.8	94.7	4	- 7	- 1	12526	8.9	77.0	96.7	5	+ 2	- 1	12586	8.5	75.3	94.7	2	+ 1	- 1
12467	9.5	82.8	97.7	2	+ 7	+ 3	12527	9.5	90.8	96.7	2	- 4	0	12587	9.3	79.1	96.8	2	+ 2	- 1
12468	7.0	74.9	94.7	4	+ 5	- 1	12528	9.4	80.8	95.3	2	- 1	+ 3	12588	9.3	86.8	96.8	2	+ 1	0
12469	8.5	76.7	96.8	4	+ 3	- 2	12529	9.4	84.8	96.7	2	0	+ 3	12589	9.4	80.1	96.8	2	+ 4	+ 2
12470	9.0	77.5	96.8	4	+ 1	+ 1	12530	9.1	84.8	98.3	2	+ 3	+ 3	12590	9.5	80.5	95.1	3	- 2	- 1
12471	9.3	87.4	96.2	3	- 7	- 1	12531	8.5	76.4	98.3	2	+ 2	0	12591	8.5	83.2	90.4	3	- 2	- 5
12472	7.0	74.1	96.0	5	+ 6	0	12532	9.0	74.0	95.2	4	0	0	12592	8.6	74.6	94.7	2	+ 7	0
12473	9.5	90.8	96.8	4	- 5	+ 2	12533	9.2	85.8	98.3	4	- 1	0	12593	9.0	77.1	96.1	3	0	- 1
12474	8.8	80.1	96.8	4	+ 2	0	12534	8.6	75.9	96.4	3	+ 5	0	12594	9.4	81.8	96.8	2	- 4	- 1
12475	9.2	81.8	93.8	2	+ 1	+ 3	12535	8.8	75.7	96.4	3	0	+ 1	12595	8.1	79.4	95.1	3	+ 5	0
12476	9.5	84.1	97.7	2	- 7	+ 1	12536	9.4	83.1	98.3	4	- 5	0	12596	8.6	74.8	98.3	2	+ 4	- 1
12477	9.4	88.3	95.0	3	- 6	+ 4	12537	7.6	75.8	95.3	2	+ 1	- 2	12597	9.5	75.1	96.1	3	- 5	+ 1
12478	8.8	79.6	96.4	3	+ 3	+ 1	12538	7.5	74.3	95.7	5	+ 7	0	12598	7.8	79.3	95.1	3	+ 6	- 1
12479	8.9	79.4	96.4	3	+ 1	+ 1	12539	6.5	74.8	95.2	4	+ 5	- 1	12599	9.1	81.8	96.1	3	+ 2	0
12480	9.3	80.5	95.7	4	+ 3	+ 1	12540	7.6	75.2	98.3	4	+ 7	+ 6	12600	9.4	75.4	96.1	3	+ 5	0



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
12601	8.9	80.2	94.7	2	+ 4	+ 1	12661	9.0	74.9	98.7	2	+ 4	- 1	12721	9.2	85.2	97.3	2	+ 2	0
12602	9.0	76.3	94.7	2	0	0	12662	9.5	82.3	97.4	3	- 1	- 2	12722	8.0	75.4	97.7	4	+ 1	- 2
12603	9.1	78.8	94.7	2	- 1	0	12663	8.8	92.7	99.2	2	+ 1	+ 3	12723†	9.5	82.8	98.3	3	- 14	+ 2
12604	9.1	84.8	98.3	2	- 1	0	12664	9.0	74.3	94.7	2	+ 2	- 2	12724†	9.2	86.8	99.7	3	+ 13	0
12605	8.8	78.8	95.8	3	+ 3	+ 1	12665	9.3	86.8	96.7	2	- 2	+ 3	12725†	9.5	93.7	95.3	2	+ 25	0
12606	9.0	73.9	94.7	2	0	- 2	12666	9.0	76.2	95.3	2	+ 2	- 1	12726	9.5	93.7	95.3	2	+ 5	0
12607	9.2	87.3	95.3	2	0	- 2	12667†	9.3	87.8	97.3	2	- 26	+ 1	12727	9.2	80.8	99.7	3	+ 3	- 2
12608†	9.2	83.8	94.7	2	- 13	+ 4	12668	9.5	81.8	96.7	2	- 3	+ 7	12728	9.2	75.1	97.3	2	- 1	0
12609	9.1	84.8	98.4	3	+ 1	- 3	12669†	9.0	75.9	97.4	3	+ 15	+ 3	12729	8.6	75.8	95.3	2	+ 1	- 1
12610	9.3	87.3	97.7	3	- 9	+ 2	12670†	9.4	81.8	98.7	2	- 18	+ 4	12730	8.9	74.5	97.3	2	+ 6	+ 2
12611	9.5	77.7	95.9	5	- 6	+ 3	12671†	9.3	87.3	94.7	2	- 13	+ 3	12731	8.9	76.3	97.3	2	- 2	- 3
12612	9.0	77.8	95.3	2	+ 3	- 1	12672	9.3	86.3	97.3	2	+ 5	- 1	12732	8.4	77.8	95.3	2	+ 5	0
12613	9.1	84.1	94.4	3	- 1	+ 1	12673	8.3	77.6	94.7	2	0	+ 1	12733	9.0	76.8	98.3	3	+ 1	+ 2
12614	9.3	81.4	94.4	3	- 5	0	12674	9.5	75.7	97.4	3	0	+ 2	12734	9.5	80.3	97.7	3	- 9	- 2
12615†	9.2	87.8	98.4	3	- 4	+ 13	12675	9.0	79.0	97.3	2	+ 5	- 1	12735	8.5	76.3	99.7	3	+ 2	- 2
12616	8.8	78.3	97.4	3	+ 2	- 4	12676†	7.0	73.7	98.7	2	+ 19	- 3	12736	9.0	77.0	97.7	3	- 1	0
12617	9.1	85.8	96.7	2	- 3	0	12677	8.8	72.7	98.7	2	+ 1	+ 1	12737	9.4	76.8	94.7	2	- 8	- 3
12618	9.4	78.0	96.7	2	0	+ 2	12678	9.2	80.0	97.7	3	+ 4	- 1	12738†	9.3	86.8	97.3	2	- 12	- 3
12619	9.0	75.7	99.2	2	- 1	- 1	12679	9.5	74.1	94.7	2	+ 1	+ 1	12739	8.8	76.4	99.2	2	+ 9	+ 7
12620	9.2	89.4	94.4	3	+ 1	0	12680	9.0	93.6	99.2	2	+ 7	+ 4	12740	8.7	74.8	98.3	3	+ 1	+ 1
12621	9.3	76.8	96.4	3	- 2	+ 2	12681	9.2	83.8	94.7	2	- 3	- 1	12741	8.5	74.1	99.7	3	+ 3	- 1
12622	9.3	89.2	98.4	3	+ 7	0	12682	9.4	74.8	94.7	2	+ 2	0	12742†	9.3	88.8	99.7	3	- 15	+ 5
12623	9.4	87.8	98.4	3	- 3	- 2	12683	9.5	83.8	96.8	3	- 7	- 1	12743	9.5	85.8	99.7	3	0	+ 1
12624	9.5	73.0	96.7	2	- 5	+ 2	12684	9.1	76.4	98.2	6	+ 6	+ 1	12744	9.2	77.1	97.3	2	0	- 3
12625	8.9	76.3	97.4	3	+ 1	- 3	12685	8.9	76.8	99.4	4	+ 4	0	12745	9.5	82.8	95.3	2	- 6	- 1
12626	9.2	84.3	94.4	3	- 3	+ 1	12686	8.4	74.4	95.5	3	+ 7	- 2	12746	6.7	88.2	94.7	2	+ 3	+ 1
12627†	9.5	79.8	97.4	3	- 13	+ 1	12687	9.0	77.6	97.3	4	- 1	- 1	12747	9.5	84.8	95.3	2	- 5	+ 1
12628	8.4	75.1	99.2	2	+ 2	0	12688	9.1	85.5	99.4	4	+ 3	+ 9	12748	9.5	73.7	97.3	2	+ 7	0
12629	9.5	79.7	96.7	2	0	- 1	12689	9.5	82.8	99.4	4	0	- 2	12749	9.5	83.8	98.4	4	- 9	- 5
12630	9.0	76.4	97.7	3	- 2	- 1	12690	9.1	84.1	95.5	3	+ 5	+ 2	12750	8.6	75.6	94.7	2	+ 1	- 3
12631	9.3	76.5	96.4	3	- 1	- 4	12691	8.9	76.3	95.1	3	+ 4	+ 2	12751†	9.5	81.8	95.3	2	- 11	+ 1
12632	9.2	86.5	96.7	2	+ 6	- 2	12692	8.8	76.7	95.1	3	+ 9	+ 1	12752	9.4	84.7	98.3	3	- 4	- 4
12633†	9.5	79.9	97.4	3	- 11	- 2	12693	9.0	75.9	98.5	5	+ 2	+ 1	12753	8.3	75.5	97.3	2	0	+ 1
12634	9.2	85.8	98.4	3	+ 6	- 1	12694†	9.5	79.8	95.5	3	- 15	+ 2	12754	8.7	73.8	99.2	2	+ 2	- 1
12635	9.3	83.3	96.7	2	- 6	0	12695	9.0	74.1	96.8	3	+ 6	+ 2	12755	9.2	81.6	99.7	3	+ 1	0
12636	8.8	75.5	97.4	3	+ 3	- 3	12696	9.1	76.7	99.4	4	- 2	- 3	12756	9.4	74.7	97.3	2	- 1	- 3
12637	9.2	86.3	98.4	3	+ 6	- 2	12697	9.1	87.6	99.4	4	- 1	- 3	12757	9.0	74.8	94.7	2	+ 2	- 2
12638	9.5	81.8	99.2	2	- 3	- 2	12698	9.5	73.8	95.1	3	- 4	0	12758	9.4	84.5	98.3	3	+ 1	+ 2
12639†	7.8	76.8	95.3	2	+ 14	- 1	12699	9.4	80.8	95.5	3	- 8	0	12759	8.5	76.1	95.1	3	+ 4	+ 2
12640	9.2	79.8	97.4	3	+ 2	- 2	12700	9.5	81.8	97.6	6	- 7	+ 4	12760	9.0	78.5	00.4	3	+ 1	0
12641	9.1	85.8	95.3	2	0	0	12701	9.3	76.4	98.1	3	- 7	- 1	12761	8.8	76.4	97.4	4	+ 1	0
12642	9.2	85.2	94.7	2	+ 2	+ 2	12702†	9.3	86.3	99.4	4	+ 12	- 6	12762	9.3	84.1	97.7	3	- 6	+ 5
12643	8.0	77.4	98.7	2	+ 2	- 2	12703	6.7	79.1	95.5	3	+ 5	0	12763	9.3	87.8	95.1	3	- 9	+ 2
12644	8.2	74.5	94.7	2	+ 5	- 3	12704	8.1	76.1	95.3	2	+ 7	- 1	12764	8.2	79.3	95.1	3	+ 2	0
12645	9.5	83.8	98.7	2	- 7	+ 2	12705	9.4	87.3	98.3	3	- 7	- 2	12765	9.4	90.8	97.4	4	+ 2	+ 2
12646	9.1	87.8	98.7	2	0	- 3	12706	9.0	75.5	96.8	3	+ 4	+ 2	12766	8.8	73.2	99.4	4	+ 2	- 1
12647	9.3	84.3	97.3	2	+ 2	0	12707	8.3	79.3	95.3	2	+ 5	- 3	12767	9.3	81.8	97.7	3	+ 2	0
12648†	9.5	81.8	95.3	2	- 18	+ 3	12708	9.1	85.8	96.8	3	+ 3	0	12768	9.0	77.6	96.5	4	+ 4	+ 1
12649	9.4	81.8	98.7	2	- 5	- 1	12709	8.5	81.0	95.1	3	- 1	+ 1	12769	9.5	76.4	99.4	4	- 7	- 3
12650	9.3	83.1	95.3	2	+ 1	+ 2	12710	8.5	78.3	95.3	2	+ 4	- 3	12770	9.0	75.8	97.7	3	0	- 2
12651	8.8	77.8	96.7	2	+ 4	0	12711	8.7	74.4	99.7	3	+ 6	0	12771	8.6	76.0	97.7	3	+ 4	+ 1
12652	9.5	73.7	97.4	3	- 7	0	12712	9.5	82.8	99.2	2	- 3	0	12772†	9.5	79.3	98.1	5	- 16	+ 3
12653	9.0	73.8	94.7	2	+ 2	- 1	12713	8.7	75.9	96.8	3	+ 2	- 2	12773	9.0	75.3	96.5	4	+ 6	+ 1
12654	9.3	85.1	96.7	2	- 8	+ 1	12714	9.0	79.4	95.3	2	+ 1	+ 2	12774	8.9	78.8	99.4	4	+ 9	+ 2
12655	9.3	86.2	97.3	2	- 4	- 1	12715	9.3	82.8	96.8	3	+ 6	- 1	12775	9.5	82.3	99.4	4	+ 5	+ 3
12656	8.5	74.5	94.7	2	+ 8	0	12716	9.2	79.3	95.3	2	0	0	12776	9.5	86.8	99.4	4	- 5	+ 1
12657	9.3	87.8	95.3	2	- 1	+ 2	12717	9.0	76.8	98.3	3	0	- 1	12777†	9.5	86.8	97.8	3	- 19	+ 4
12658	9.3	80.8	94.7	2	- 5	0	12718	9.5	73.7	99.7	3	- 7	- 1	12778	9.5	82.8	96.5	4	+ 1	+ 2
12659	9.5	86.8	97.3	2	- 2	+ 4	12719†	9.4	81.8	96.8	3	- 16	+ 1	12779	9.3	78.7	97.7	3	+ 4	+ 3
12660	9.2	85.0	97.7	3	+ 2	- 1	12720	9.0	73.4	94.7	2	+ 1	0	12780	9.5	84.8	98.3	3	- 6	- 1



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12781†	7.6	75.0	98.3	3	+11	+4	12841	9.5	86.3	98.3	3	-5	+3	12901	9.5	76.0	02.3	2	-6	+5
12782	9.1	85.3	96.5	4	-3	+3	12842	7.3	86.3	98.3	3	+4	-6	12902	8.1	78.0	98.3	2	+3	0
12783	8.8	74.6	99.4	4	-1	-1	12843	9.2	85.1	99.7	3	-7	+1	12903	8.4	88.8	98.3	3	+1	+1
12784	9.4	87.8	96.2	4	-7	+2	12844	7.4	86.5	98.3	3	-4	-2	12904	8.1	78.9	98.3	3	+5	+3
12785	9.2	78.2	95.3	2	-1	+1	12845†	9.5	82.8	98.7	5	-18	+7	12905†	9.5	88.3	99.1	6	-12	0
12786†	7.2	76.6	97.7	3	+31	-1	12846	8.2	84.7	97.5	3	+4	-2	12906	9.5	74.8	99.9	5	-3	0
12787	8.0	76.8	98.3	3	+5	-1	12847†	4.0	Fund.	98.7	5	+9	+2	12907	8.9	80.1	98.3	3	0	+1
12788	9.1	79.8	96.5	4	+2	0	12848	9.4	86.8	99.6	8	+1	-2	12908	8.9	79.3	98.3	3	+3	-4
12789	7.7	78.4	95.3	2	+7	-1	12849†	9.3	88.3	99.8	5	-12	-2	12909	9.5	72.7	99.9	5	-1	-1
12790	9.0	79.0	97.7	3	+1	-1	12850†	...	...	...	...	...	...	12910	9.5	72.7	01.7	4	-9	+1
12791	9.5	88.4	99.4	4	-7	+1	12851	9.0	82.0	99.0	4	-4	-3	12911	9.3	88.3	99.7	3	-8	+3
12792	9.0	77.4	99.7	3	+3	+2	12852	9.1	87.8	97.5	3	-3	-4	12912	9.3	84.2	98.3	2	+3	+4
12793	9.5	78.1	97.2	2	-3	-1	12853	8.8	81.1	99.0	6	+3	+1	12913	9.5	73.7	98.3	3	+2	+1
12794	9.3	87.3	97.7	4	-6	-2	12854	8.7	83.7	97.5	3	+2	-2	12914	9.0	76.0	98.3	2	-2	-4
12795	9.3	80.0	97.2	2	-6	0	12855	9.0	82.8	98.7	5	+2	0	12915	8.5	75.3	98.3	2	+3	+2
12796	9.3	89.5	95.3	2	+5	0	12856	8.0	82.8	99.0	5	+4	-1	12916†	9.5	81.8	99.9	5	-14	+5
12797	9.3	87.3	97.4	3	-5	+3	12857	8.3	78.7	99.0	4	+6	-2	12917†	...	...	...	...	...	...
12798	9.5	73.7	99.7	3	-1	+1	12858	9.0	83.3	97.9	4	-2	+1	12918	9.0	76.8	98.3	2	+3	-1
12799	9.3	86.8	99.7	3	-3	+3	12859	7.5	83.7	00.0	3	+4	+2	12919	9.0	75.5	99.9	5	+5	-1
12800	9.5	82.3	98.3	3	-9	+7	12860	9.4	84.8	98.4	4	-4	-1	12920	7.7	78.7	99.1	6	+6	0
12801	9.0	77.2	97.2	2	+1	0	12861	9.3	82.8	99.7	3	+4	+5	12921	9.1	89.6	97.1	3	+2	-2
12802	9.5	84.8	98.3	3	-3	+2	12862	8.7	79.7	98.3	3	+3	+1	12922†	9.0	74.8	99.3	9	+1	+1
12803	9.0	84.8	99.7	3	-3	-1	12863	9.1	87.8	00.0	3	-5	+4	12923	9.3	88.3	99.1	6	-3	+3
12804	8.9	77.8	97.2	2	+7	+2	12864	8.2	80.8	98.3	3	+5	+1	12924	8.8	87.4	99.1	6	-2	-1
12805	8.8	73.0	98.4	4	+2	-2	12865	8.5	74.8	99.5	4	+8	-2	12925	9.2	85.3	97.1	4	-9	-1
12806	9.3	80.7	95.3	2	-6	0	12866	8.3	79.0	98.3	3	-1	0	12926	9.2	92.7	99.5	4	-6	+8
12807	8.8	83.1	98.3	3	+2	-1	12867†	7.0	82.3	99.5	4	+1	0	12927	9.0	74.4	97.1	3	+5	-3
12808	9.3	86.5	97.4	3	-9	-1	12868	9.1	79.2	98.3	3	-3	-3	12928	9.3	82.8	00.2	4	-1	+5
12809	8.9	80.4	97.2	2	+1	+1	12869	9.0	86.1	98.3	2	+1	0	12929	9.0	93.7	02.3	2	-2	+3
12810	9.4	89.2	97.2	2	+3	-1	12870	9.4	84.0	99.7	3	-8	+3	12930	9.2	93.7	02.3	2	+2	0
12811	9.1	87.8	99.7	3	+3	+2	12871	9.2	79.3	00.0	3	+5	-4	12931	9.1	89.8	98.3	3	+1	-5
12812	9.5	82.8	95.3	2	-8	+6	12872	9.4	88.3	99.2	4	-6	+3	12932	9.5	78.4	98.3	2	-9	+3
12813	7.7	84.5	97.4	3	+5	+1	12873	8.0	79.5	99.5	4	-3	-2	12933	8.6	74.8	98.3	3	+3	-1
12814	9.5	82.8	97.7	3	-2	+3	12874	9.3	87.8	98.3	2	-5	+3	12934	8.9	78.8	98.3	2	+2	0
12815	9.5	80.8	97.4	3	0	0	12875†	6.8	81.9	99.5	4	+14	+1	12935	9.0	75.0	00.2	4	+4	-3
12816	9.0	75.8	97.4	3	+4	0	12876	8.5	78.9	99.7	3	+7	0	12936	8.9	76.8	98.3	3	+2	-1
12817	8.3	82.3	97.4	3	+4	-2	12877	8.2	79.8	00.0	3	+4	0	12937†	5.3	79.9	98.3	2	+8	+1
12818	9.1	85.8	99.7	3	-3	-1	12878	9.0	77.1	00.0	3	-1	0	12938	8.9	74.3	99.5	4	-2	-1
12819	9.2	81.8	97.8	4	0	-3	12879	9.4	75.8	98.3	3	-6	0	12939	8.2	77.4	98.3	2	0	-1
12820	9.1	80.0	97.4	3	+2	-1	12880	9.0	74.7	98.4	4	-5	+2	12940	7.5	79.5	99.5	4	+5	-2
12821	9.1	84.8	97.4	3	-6	-3	12881	9.3	85.3	99.7	3	+2	-1	12941	8.4	76.4	99.5	4	+8	-3
12822	9.0	82.1	97.4	3	+2	+1	12882	8.8	79.7	00.0	3	+3	0	12942	9.2	87.3	98.3	2	+1	+3
12823	8.9	79.5	97.2	2	0	-4	12883	8.4	76.4	00.0	3	0	-2	12943	9.3	87.8	00.2	4	-2	+9
12824	9.3	86.1	97.2	2	-8	+1	12884	9.3	84.7	98.3	3	+4	-2	12944†	9.5	86.8	98.3	3	-11	+3
12825	9.0	81.1	98.7	5	+4	-1	12885	8.4	75.6	98.3	2	+5	-1	12945†	9.5	82.8	00.3	6	-12	+4
12826	8.7	83.8	97.7	4	+2	-4	12886	8.6	78.5	99.7	3	+8	+2	12946	9.5	74.4	98.3	3	+2	+4
12827	9.0	84.3	98.7	5	-6	+1	12887	9.2	85.3	99.2	4	-7	-1	12947	8.0	76.8	98.3	3	-2	-2
12828	8.5	77.8	99.7	3	+6	+3	12888	8.9	76.0	02.3	2	0	0	12948†	9.3	87.8	99.8	3	-19	-2
12829	8.1	83.7	99.7	3	+6	-2	12889	9.0	75.4	99.5	4	+3	0	12949	9.0	79.1	02.3	2	-3	0
12830	9.4	88.3	99.0	4	-6	+1	12890	9.5	81.8	99.2	4	-9	+2	12950	9.2	80.6	02.3	2	-2	+1
12831†	9.3	87.8	98.7	5	-12	+1	12891	9.5	77.1	99.5	4	-3	-1	12951†	8.9	78.8	98.3	3	+16	+11
12832†	9.2	87.8	97.7	5	-7	-3	12892	8.4	77.3	99.7	3	+3	-1	12952	9.4	87.8	99.1	5	-8	-2
12833	9.5	81.8	99.0	4	+3	+9	12893†	9.1	86.8	98.3	2	+12	-2	12953	9.2	85.3	98.3	2	-4	+5
12834†	8.2	83.7	98.7	6	+17	+4	12894	8.6	76.2	98.3	3	0	0	12954	9.1	80.8	98.3	2	-3	+1
12835†	4.5	82.8	98.3	3	+21	-12	12895†	9.5	77.4	98.3	3	-6	+1	12955	8.2	76.2	00.5	4	0	-8
12836	8.3	78.7	99.0	4	+2	-8	12896	8.4	77.5	98.3	3	0	+1	12956	8.9	78.5	98.3	3	0	-2
12837	7.8	84.1	98.7	5	+4	-2	12897	9.0	76.8	99.9	5	+6	0	12957	8.7	80.3	02.3	2	+4	+4
12838	9.4	82.8	98.4	4	+2	+3	12898	8.4	74.8	98.3	3	-3	+2	12958	8.8	92.7	99.5	4	0	-1
12839†	7.7	85.2	98.3	3	+11	+4	12899	8.6	76.8	99.2	4	+3	+1	12959†	9.3	81.8	98.3	3	-12	-2
12840	9.4	83.1	98.7	5	-6	-5	12900	9.5	82.1	02.3	2	0	+2	12960	8.6	78.5	00.2	4	+8	-2



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No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
12961	8.4	82.1	98.3	2	+ 7	- 2	13021	8.8	77.5	98.0	4	- 2	- 2	13081	9.4	79.9	95.1	3	+ 7	+ 3
12962	9.0	72.7	00.2	4	- 2	0	13022	8.8	79.8	97.3	4	0	+ 1	13082	9.0	74.6	95.4	3	+ 3	0
12963	8.5	74.2	00.5	4	+ 8	0	13023	8.9	76.4	98.3	5	+ 6	+ 1	13083	9.3	75.1	97.2	2	+ 4	- 3
12964	9.1	79.8	00.2	4	- 7	- 3	13024	8.8	76.3	97.3	4	+ 1	- 1	13084	9.3	78.1	99.2	2	- 1	0
12965	9.0	79.5	97.6	3	+ 8	0	13025	9.5	82.8	95.3	2	- 3	+ 6	13085	7.8	75.2	95.1	3	+ 6	- 1
12966†	5.9	79.5	98.3	3	0	- 3	13026	9.3	84.1	99.5	4	- 4	+ 4	13086	9.5	75.8	96.7	3	- 2	- 1
12967	9.4	79.0	99.5	4	- 5	+ 1	13027	9.2	87.8	98.5	5	+ 2	+ 3	13087	9.4	82.1	95.4	3	- 8	0
12968	9.0	77.1	00.5	4	+ 2	0	13028	9.0	93.7	99.2	2	+ 6	0	13088	8.7	74.4	95.1	3	+ 2	- 1
12969	8.9	79.8	01.7	5	+ 1	- 3	13029	9.1	87.1	99.5	4	0	- 2	13089	8.8	74.3	97.2	2	+ 4	+ 1
12970†	5.3	Fund.	99.5	4	+ 4	0	13030	8.8	79.5	97.2	2	- 2	- 2	13090	9.0	74.8	95.3	2	0	- 4
12971	8.6	92.8	02.3	3	- 2	+ 1	13031†	9.5	83.3	97.2	2	- 11	+ 2	13091	9.4	75.7	98.7	2	+ 6	+ 1
12972	9.4	78.8	00.2	4	+ 8	- 5	13032	8.5	74.4	99.5	4	+ 2	- 2	13092	9.1	86.8	95.3	2	- 5	+ 6
12973	8.4	83.7	99.5	4	+ 7	- 1	13033	9.4	84.7	97.2	2	- 2	- 2	13093	8.3	74.8	96.0	4	+ 5	+ 2
12974	9.4	81.8	00.5	4	- 8	+ 6	13034	8.6	75.8	98.3	5	+ 2	- 2	13094†	9.5	86.8	94.7	1	- 38	- 9
12975	9.0	77.8	98.0	3	+ 3	- 3	13035	9.5	83.8	97.2	2	+ 5	+ 1	13095†	9.4	88.3	99.2	2	- 14	+ 4
12976	9.4	80.7	00.2	4	- 7	+ 1	13036	8.9	75.2	99.5	4	- 1	- 4	13096	9.0	75.8	98.7	2	+ 1	- 1
12977	9.5	82.8	00.2	4	0	+ 2	13037	7.5	75.5	97.2	2	+ 3	- 4	13097	8.2	74.1	98.7	2	+ 7	- 4
12978	8.9	79.5	96.8	3	+ 2	0	13038	9.5	87.8	99.2	2	- 6	+ 4	13098	9.0	80.8	95.4	3	- 3	+ 2
12979	8.9	93.7	98.0	3	+ 1	+ 2	13039†	8.5	80.3	97.2	2	+ 13	- 2	13099	9.3	75.4	96.7	3	- 2	+ 2
12980	9.2	75.7	98.7	4	+ 4	+ 2	13040	7.2	76.5	97.2	2	+ 2	- 4	13100	9.3	86.8	96.0	3	- 7	+ 2
12981†	6.8	74.7	00.1	5	- 7	- 9	13041†	9.5	87.8	96.4	3	- 13	+ 1	13101	9.2	80.3	95.1	3	- 1	- 1
12982	9.0	86.7	97.5	3	+ 6	+ 1	13042	7.9	76.8	96.4	3	+ 4	- 1	13102	8.2	84.8	99.2	2	+ 4	0
12983	8.9	84.1	97.5	3	+ 1	+ 5	13043	9.1	84.8	96.4	3	+ 3	0	13103	9.0	79.8	95.1	3	- 6	+ 2
12984	9.5	80.0	97.2	2	- 1	+ 1	13044	9.2	75.5	95.8	2	+ 3	- 1	13104	7.9	74.4	95.1	3	+ 3	0
12985	8.3	77.0	95.3	2	+ 3	0	13045	9.0	79.8	98.7	2	0	0	13105	9.4	84.8	98.7	2	- 7	0
12986	9.5	83.3	00.0	3	+ 2	- 2	13046	9.0	76.8	95.8	2	0	- 3	13106	9.1	76.3	95.1	3	+ 1	0
12987†	9.5	81.8	98.7	4	- 11	0	13047	8.7	84.2	95.8	2	+ 3	- 2	13107	9.3	90.8	98.7	2	0	0
12988	8.4	74.7	97.2	2	+ 3	0	13048	8.8	82.4	96.4	3	+ 6	- 3	13108	9.2	84.8	98.7	2	- 6	+ 4
12989	9.2	82.8	00.0	3	+ 1	0	13049	9.0	76.7	96.2	4	+ 1	0	13109	8.9	76.1	97.2	2	0	- 3
12990†	9.0	85.8	92.8	1	- 4	0	13050	8.6	77.2	96.8	3	+ 1	- 1	13110	9.5	73.7	99.2	2	- 2	+ 1
12991	9.0	75.5	98.0	3	+ 3	- 2	13051	9.4	84.3	98.7	2	+ 4	+ 2	13111	9.0	74.1	98.7	2	+ 4	- 2
12992	9.5	81.8	00.0	3	- 1	+ 4	13052	9.5	72.7	97.1	3	+ 3	- 1	13112	9.1	85.9	95.3	2	- 2	+ 2
12993	9.2	80.8	00.0	3	- 3	+ 1	13053	9.3	86.3	95.1	3	- 5	- 4	13113	8.0	78.5	96.2	2	+ 5	0
12994	9.1	77.8	97.2	2	+ 6	+ 4	13054	9.3	88.9	95.1	3	- 4	- 2	13114	8.5	74.4	98.7	2	0	0
12995	8.9	75.5	98.0	3	+ 6	+ 1	13055	9.2	87.3	00.4	3	+ 6	0	13115	9.1	87.3	95.3	2	0	- 2
12996	9.2	74.8	98.1	3	- 5	- 1	13056	9.5	80.8	96.3	2	- 8	- 2	13116	9.4	80.8	95.3	2	- 6	0
12997†	9.5	76.8	97.2	2	- 10	+ 1	13057†	9.5	80.7	98.7	2	+ 10	+ 3	13117	9.1	87.8	95.7	2	- 1	+ 1
12998	8.7	74.8	98.1	3	+ 4	+ 1	13058	9.0	73.8	96.3	2	+ 1	0	13118	9.4	86.8	95.3	2	- 3	- 2
12999	8.9	75.4	98.0	3	+ 3	- 2	13059	8.8	74.3	97.1	3	+ 3	- 2	13119	9.5	73.7	96.7	3	- 1	- 1
13000	7.8	92.7	99.2	2	+ 2	+ 4	13060	9.4	88.3	97.2	2	- 2	- 4	13120†	9.5	87.3	98.7	2	- 14	0
13001	9.4	75.7	98.0	3	- 4	+ 1	13061†	9.4	80.9	96.3	2	- 14	- 2	13121	8.4	77.0	97.2	2	- 1	- 2
13002	8.9	76.8	97.2	2	+ 4	- 4	13062†	7.4	76.5	95.3	2	- 19	- 25	13122	9.3	80.8	97.2	2	0	+ 2
13003	9.3	82.3	00.0	3	- 3	+ 3	13063	8.8	92.7	99.2	2	0	+ 2	13123	9.0	74.6	96.2	2	+ 6	- 4
13004	9.5	83.8	97.2	2	- 3	+ 3	13064	9.1	74.5	98.7	2	+ 4	- 3	13124	9.0	75.8	95.3	2	+ 1	+ 2
13005	9.5	73.7	98.7	4	- 7	- 8	13065	8.8	75.5	95.3	2	+ 2	- 2	13125	9.2	83.8	98.7	2	- 6	0
13006	9.5	74.8	00.0	3	- 1	- 1	13066	9.3	86.1	95.3	2	- 6	+ 2	13126	9.3	85.9	96.2	2	- 6	0
13007	8.8	76.2	96.7	3	0	0	13067	9.1	87.1	95.8	2	0	+ 1	13127	9.5	74.0	95.7	2	0	- 4
13008	8.5	76.8	96.3	5	+ 1	- 3	13068	9.2	81.8	97.2	2	- 1	+ 3	13128	9.0	75.6	98.7	2	+ 6	- 1
13009†	9.3	85.9	98.4	4	- 16	+ 5	13069	9.5	82.8	99.2	2	- 3	- 2	13129	9.4	88.2	95.7	2	- 4	+ 1
13010	9.5	81.8	98.5	5	- 7	+ 9	13070	8.7	79.3	97.2	2	+ 2	+ 2	13130	8.8	80.1	96.2	4	+ 2	0
13011†	9.5	88.8	97.2	2	+ 16	0	13071	9.1	90.8	95.8	2	- 1	+ 2	13131	9.4	85.8	95.7	2	- 4	- 2
13012	9.3	87.8	98.0	4	- 9	0	13072	7.5	75.7	97.7	3	+ 3	+ 3	13132	9.0	81.8	96.7	3	0	- 1
13013	8.9	75.8	95.3	2	0	- 3	13073	9.4	79.9	95.8	2	- 3	+ 9	13133	8.9	75.6	98.1	3	0	+ 2
13014	9.5	74.3	96.6	6	- 6	0	13074†	...	...	...	...	...	...	13134	7.7	92.7	98.1	3	+ 1	+ 2
13015	9.0	92.7	99.2	2	0	+ 4	13075	9.3	85.8	95.3	2	- 6	+ 2	13135	7.8	77.6	95.4	3	+ 3	+ 1
13016	8.5	75.5	97.2	2	0	- 1	13076	8.2	78.1	95.3	2	+ 4	+ 2	13136	9.4	77.4	98.1	3	- 1	0
13017	9.4	76.0	97.2	2	0	0	13077	8.5	75.7	98.7	2	+ 2	+ 1	13137	9.5	82.8	97.9	4	- 2	+ 8
13018	9.4	84.8	97.2	2	- 6	0	13078	9.2	88.1	95.3	2	+ 2	+ 4	13138	7.0	77.5	95.4	3	+ 7	+ 1
13019	9.4	90.9	99.5	4	- 5	- 1	13079	9.0	75.9	96.8	3	- 1	- 1	13139†	9.5	81.8	93.7	2	- 13	+ 4
13020†	8.8	75.8	98.2	7	+ 10	0	13080	9.5	89.8	98.7	2	+ 2	+ 2	13140	7.7	81.0	95.4	3	+ 2	0



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13141	9.2	79.8	96.2	2	- 6	- 2	13201†	9.3	91.3	97.7	3	+ 5	+12	13261	8.5	79.5	97.7	3	- 3	+ 1
13142	7.5	76.8	95.4	3	+ 2	0	13202	8.3	81.5	97.0	3	+ 3	+ 1	13262	8.3	77.9	98.1	3	+ 5	- 1
13143	9.0	75.5	96.2	2	+ 1	- 2	13203	8.9	83.4	97.7	3	+ 5	- 2	13263	8.6	74.1	97.1	3	+ 2	- 2
13144	8.5	74.4	95.7	2	- 1	- 2	13204	8.9	78.8	93.7	2	+ 6	- 2	13264	9.0	76.3	96.8	4	+ 1	+ 1
13145	9.3	82.8	95.3	2	- 5	+ 6	13205	9.4	83.7	95.3	2	- 4	+ 2	13265	9.3	78.4	95.4	3	0	+ 1
13146	9.0	73.7	95.7	2	+ 6	- 2	13206	8.6	81.8	97.0	3	+ 1	0	13266	9.4	81.9	99.0	4	- 5	+ 2
13147	7.7	74.1	97.8	4	+ 4	0	13207	8.8	86.8	97.7	3	+ 2	- 1	13267	8.0	78.8	98.9	5	+ 3	+ 1
13148	9.5	83.8	97.5	4	- 5	+ 4	13208	9.3	89.2	97.7	3	+ 2	+ 5	13268	9.3	76.5	99.1	8	+ 3	0
13149	8.2	93.7	99.2	2	- 1	+ 2	13209	9.5	89.5	97.7	3	+ 3	+ 2	13269†	8.7	74.5	95.4	3	+15	+ 4
13150	9.3	85.1	97.8	4	- 2	0	13210	9.4	90.3	96.2	4	- 2	+ 4	13270†	9.5	77.8	97.9	5	-11	+ 8
13151	9.3	74.5	98.3	4	+ 1	+ 1	13211	8.6	76.0	97.0	4	+ 1	+ 1	13271	8.3	83.8	98.9	5	+ 6	0
13152	8.6	76.6	98.0	4	- 2	+ 2	13212	9.3	80.2	95.3	2	- 9	+ 2	13272	8.7	75.3	98.0	4	+ 3	- 2
13153	7.5	78.5	97.5	4	+ 4	0	13213	8.7	77.8	97.7	3	+ 2	- 4	13273	9.2	92.8	00.1	3	- 8	- 1
13154	9.5	72.7	98.0	4	- 6	- 4	13214	7.8	78.7	95.3	2	+ 3	- 2	13274	9.4	72.8	95.4	3	- 7	+ 3
13155	9.3	88.8	93.7	2	- 4	+ 6	13215	7.0	75.1	96.2	4	- 3	- 4	13275	9.4	81.8	98.0	4	- 3	+ 7
13156	8.8	75.8	98.0	4	0	+ 2	13216	9.0	80.7	97.7	3	+ 3	0	13276	8.7	75.5	98.0	4	+ 4	+ 1
13157	8.7	74.7	96.4	3	+ 1	- 1	13217	8.9	73.4	96.1	5	- 1	0	13277	8.2	76.5	98.3	2	+ 9	0
13158	9.0	76.1	97.8	4	- 6	- 3	13218	9.0	74.1	93.7	2	- 5	0	13278	9.4	83.8	98.9	5	- 4	+ 2
13159	9.2	83.4	95.3	2	- 4	0	13219	8.6	80.5	97.7	3	- 1	+ 4	13279	9.0	74.8	98.4	3	- 2	+ 4
13160	8.8	92.7	99.3	2	- 2	+ 3	13220	9.2	86.8	93.7	2	+ 4	- 2	13280	9.0	78.7	98.3	2	0	+ 2
13161	9.5	77.7	94.4	3	- 2	- 1	13221	9.0	75.1	93.7	2	- 4	0	13281	9.0	92.8	02.2	2	- 2	+ 3
13162	9.0	82.8	95.3	2	- 5	+ 2	13222	9.1	76.7	97.0	4	0	+ 2	13282	9.3	81.3	98.0	4	+ 2	+ 2
13163	9.3	89.0	97.8	4	+ 6	- 1	13223	9.2	83.3	97.7	3	- 6	0	13283†	6.8	75.1	98.9	5	- 1	-11
13164	9.5	81.8	97.8	4	- 8	+ 2	13224	9.0	83.0	97.7	3	+ 4	0	13284	8.7	93.7	02.2	2	+ 2	- 5
13165	9.1	81.4	95.3	2	- 3	- 1	13225	9.3	84.8	97.7	3	- 3	+ 2	13285	9.0	83.5	98.0	4	- 2	- 2
13166†	...	...	...	...	...	...	13226	9.0	74.8	97.7	3	- 1	0	13286	7.5	77.5	98.0	4	+ 2	- 5
13167	8.8	77.6	97.0	3	- 4	0	13227	9.0	83.6	97.7	3	- 3	- 1	13287	8.5	79.7	98.3	2	0	0
13168†	6.2	78.2	98.0	4	+ 7	+ 2	13228	9.1	85.9	99.2	2	0	+ 3	13288	8.5	76.9	96.7	2	- 4	0
13169†	8.4	83.3	95.3	2	+ 6	- 2	13229	9.3	75.5	97.6	6	- 4	+ 2	13289	8.8	92.8	02.2	2	- 7	- 2
13170	9.5	82.3	93.7	2	- 4	+ 2	13230†	9.5	73.7	95.3	2	-12	+ 2	13290	9.2	76.5	98.3	2	- 2	+ 2
13171†	9.5	82.8	93.7	2	-16	0	13231	8.9	76.0	98.1	3	0	- 1	13291	10.0	73.7	98.3	2	- 2	- 5
13172	9.5	79.3	94.4	3	+ 9	- 5	13232	8.8	76.3	97.7	3	0	0	13292†	6.4	75.8	96.7	2	+ 9	- 2
13173	9.4	80.8	95.3	2	- 1	+ 2	13233	9.2	84.9	99.2	2	- 5	+ 9	13293	9.5	85.9	99.1	3	- 4	- 4
13174	9.0	72.7	97.7	3	+ 1	0	13234	9.0	73.5	97.7	3	+ 1	- 2	13294	8.9	86.3	95.8	2	+ 5	+ 2
13175†	5.9	79.1	93.7	2	+11	0	13235	9.2	85.9	97.7	3	+ 3	+ 1	13295	9.5	80.8	98.3	2	- 4	+ 2
13176	9.2	81.6	93.7	2	+ 2	+ 3	13236	9.2	77.0	97.7	3	+ 2	- 2	13296	8.7	77.6	02.2	2	+ 3	+ 2
13177†	9.0	80.3	97.0	3	- 1	- 4	13237	9.3	79.1	97.7	3	- 7	- 4	13297	9.1	77.8	96.7	2	- 4	+ 2
13178†	7.6	76.7	95.3	2	- 6	- 2	13238	8.5	78.6	97.7	3	+ 2	+ 1	13298	9.4	74.8	96.7	2	+ 2	- 2
13179†	8.0	82.4	97.7	3	+ 8	-12	13239	8.7	75.8	93.7	2	0	- 2	13299	9.5	90.8	99.1	3	- 5	- 1
13180	9.2	86.3	97.7	3	+ 1	- 4	13240	9.1	77.8	95.3	2	- 2	- 2	13300	9.5	75.8	99.1	3	- 3	+ 4
13181	9.4	88.8	99.2	2	- 4	+ 1	13241†	9.3	79.8	99.2	2	+12	- 2	13301	8.3	75.7	96.7	2	+ 4	0
13182	8.5	75.1	98.0	3	+ 2	- 1	13242	8.2	77.4	99.2	2	- 6	- 4	13302	8.8	74.0	98.3	2	- 2	- 2
13183	9.1	84.8	98.0	3	- 4	+ 2	13243	9.0	75.0	98.1	3	- 2	+ 1	13303	9.0	73.8	96.7	2	- 2	+ 1
13184	8.3	85.8	99.2	2	+ 1	+ 2	13244	8.8	75.5	93.7	2	- 3	- 2	13304	9.0	76.0	95.8	2	+ 6	0
13185	9.0	76.8	95.3	2	- 4	- 1	13245	9.1	80.6	95.3	2	+ 4	+ 2	13305†	7.3	74.1	98.4	3	+ 5	- 6
13186	8.6	76.3	93.7	2	+ 1	0	13246	8.5	76.3	97.1	3	+ 1	- 1	13306	9.0	76.0	02.2	2	- 4	0
13187	8.0	92.8	99.2	2	- 5	- 2	13247	9.4	77.8	98.1	3	+ 4	- 5	13307	9.1	84.8	99.1	3	+ 1	- 1
13188	8.2	81.7	97.7	3	- 3	- 2	13248	6.5	80.5	97.7	3	+ 9	+ 4	13308	8.5	75.2	96.7	2	+ 4	0
13189	9.4	86.3	93.7	2	- 6	+ 2	13249	9.4	73.7	95.3	2	- 4	+ 2	13309	8.9	77.5	96.7	2	- 2	- 1
13190	9.2	85.8	94.1	3	- 4	0	13250	8.5	74.7	95.3	2	+ 1	0	13310	9.5	76.8	99.1	3	+ 2	+ 3
13191	8.7	80.3	97.0	3	- 1	0	13251	9.2	76.3	93.7	2	+ 2	+ 2	13311†	9.3	93.2	95.8	2	-12	- 3
13192	7.8	77.8	98.0	3	0	0	13252	9.0	75.3	98.1	3	+ 2	- 3	13312	9.2	85.5	98.3	2	+ 1	- 2
13193	8.7	81.8	97.7	3	+ 2	+ 4	13253	9.0	76.1	98.1	3	+ 1	0	13313	9.5	93.9	98.3	2	+ 6	+ 2
13194	8.5	80.0	98.0	3	- 1	- 1	13254	9.0	92.8	95.3	2	0	+ 1	13314	9.2	79.1	98.4	3	- 6	+ 2
13195	9.3	89.5	97.7	3	+ 3	+ 2	13255	8.7	79.0	98.1	3	+ 6	0	13315	9.3	85.3	95.8	2	0	+ 5
13196	7.2	78.7	95.1	3	+ 8	- 5	13256	9.1	79.0	98.1	3	- 2	+ 2	13316	8.8	77.1	95.8	2	+ 2	- 1
13197	9.1	84.8	95.1	3	+ 2	- 1	13257	7.2	74.1	92.7	2	+ 8	- 2	13317	9.2	86.8	98.3	2	- 6	+ 1
13198	9.5	88.8	00.4	3	- 2	- 1	13258	7.2	80.8	98.4	3	+ 7	0	13318	8.8	74.3	99.1	3	0	+ 3
13199	9.2	82.4	00.4	3	0	- 1	13259	9.3	77.1	93.7	2	- 6	- 2	13319	8.8	75.5	98.4	3	- 1	+ 1
13200	8.8	75.7	97.7	3	+ 3	- 2	13260	8.9	74.7	98.0	4	- 2	- 2	13320	9.5	77.1	98.3	2	0	- 5



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
13321	9.0	75.4	98.3	2	- 2	0	13381	9.0	79.6	98.4	3	+ 1	+ 2	13441	9.3	81.8	99.1	3	- 5	- 1
13322	9.4	75.2	96.1	3	- 6	+ 5	13382	6.5	75.0	96.8	3	+ 4	- 2	13442	7.8	79.2	97.1	3	0	- 1
13323	9.2	81.5	98.3	2	- 4	0	13383	9.3	79.3	96.8	3	- 2	+ 1	13443	9.4	80.0	99.0	4	+ 4	+ 3
13324	9.5	86.1	98.3	2	+ 6	+ 1	13384†	5.0	76.8	99.2	4	+ 10	- 2	13444	9.3	81.9	99.1	3	0	+ 3
13325	8.5	74.8	97.8	4	0	- 3	13385	9.1	75.9	98.3	3	+ 3	+ 2	13445	9.5	77.4	01.2	4	- 5	+ 2
13326	7.8	75.0	97.1	3	+ 3	- 3	13386	9.0	76.3	99.7	3	+ 6	- 1	13446	8.3	93.1	01.4	3	- 2	+ 3
13327	9.3	76.4	97.1	3	- 7	- 2	13387	9.2	75.8	98.3	3	+ 3	0	13447	8.8	74.8	99.7	3	+ 4	- 1
13328	9.3	76.2	97.1	3	- 5	0	13388	8.6	76.2	99.1	3	0	- 2	13448	8.5	74.5	99.0	4	- 6	- 1
13329	6.6	74.7	98.3	2	+ 6	- 4	13389	9.2	76.2	99.7	3	+ 6	+ 6	13449	8.7	74.6	96.3	2	+ 6	- 2
13330	9.1	82.8	95.1	3	- 5	+ 1	13390	9.1	81.8	99.7	3	+ 1	- 2	13450	8.8	76.4	99.8	4	+ 2	0
13331†	7.0	75.9	96.7	2	+ 10	0	13391†	7.5	75.1	99.1	3	+ 11	- 2	13451	8.8	82.8	98.3	3	+ 3	- 1
13332	9.0	76.5	98.3	2	+ 1	+ 2	13392	9.0	75.9	96.2	2	0	- 2	13452	6.8	92.8	01.4	3	+ 3	+ 1
13333	9.4	75.3	95.1	2	- 4	0	13393	7.5	84.8	01.4	3	+ 4	- 1	13453	9.2	77.7	01.4	3	- 2	+ 1
13334	7.2	74.8	98.3	3	+ 2	0	13394	9.4	75.8	96.2	2	- 1	+ 7	13454	8.2	76.8	01.4	3	+ 6	- 3
13335	9.0	79.6	98.3	2	+ 6	+ 3	13395	9.0	75.8	99.7	3	- 2	0	13455†	9.5	88.1	98.3	3	- 13	+ 1
13336	8.1	76.4	98.3	2	+ 3	0	13396	8.5	76.1	96.2	2	+ 4	- 1	13456†	9.0	77.4	99.7	3	+ 12	+ 1
13337	9.4	76.0	97.8	4	- 3	+ 4	13397	8.8	77.8	99.1	3	+ 2	- 1	13457	9.4	81.8	99.5	5	- 2	+ 5
13338	9.2	81.3	98.3	2	- 4	0	13398	9.3	80.8	99.1	3	- 4	+ 4	13458	9.0	93.7	01.4	3	+ 2	- 2
13339	8.8	77.6	98.3	2	0	- 2	13399	8.4	75.6	99.5	5	+ 4	- 2	13459	9.1	80.2	99.7	3	0	+ 1
13340	7.5	74.8	98.3	4	+ 8	+ 3	13400	9.1	78.3	99.7	3	+ 5	0	13460	9.0	75.7	98.3	3	- 2	- 3
13341	9.3	82.8	96.7	2	- 7	- 1	13401	9.4	81.8	98.4	4	- 4	+ 2	13461	8.6	76.4	99.7	3	+ 6	- 9
13342	9.3	75.9	95.8	2	+ 2	+ 9	13402†	9.5	76.8	99.7	3	- 2	0	13462	9.0	74.8	99.1	3	+ 3	- 3
13343	8.8	76.1	01.8	2	- 3	0	13403	9.0	79.3	99.1	3	0	+ 1	13463	9.4	75.3	99.1	4	0	+ 1
13344	7.0	76.8	95.8	2	+ 2	- 2	13404	8.6	75.7	99.1	3	0	- 1	13464	9.4	72.8	98.2	3	- 8	0
13345	9.0	78.7	96.8	3	+ 3	+ 3	13405	9.5	79.0	99.7	3	- 3	- 5	13465	8.5	74.9	99.1	3	+ 2	- 1
13346	9.5	85.1	96.7	2	- 4	- 6	13406	8.8	75.0	99.1	3	0	- 2	13466	6.8	77.6	95.4	3	+ 4	0
13347	9.0	86.5	95.8	2	- 2	0	13407	9.0	76.3	96.2	2	0	0	13467	9.1	84.8	99.1	3	- 5	- 1
13348	8.8	76.6	01.8	2	- 6	+ 1	13408	8.5	75.8	96.2	2	+ 6	- 5	13468	9.0	74.9	98.2	4	+ 5	+ 2
13349	9.1	84.8	96.7	2	- 4	0	13409†	9.4	73.8	99.7	3	- 10	- 8	13469	8.5	75.8	95.4	3	+ 2	- 2
13350	9.1	86.5	98.3	2	- 5	+ 4	13410	9.3	76.3	99.1	3	- 4	- 4	13470	9.0	77.6	98.2	4	+ 1	+ 1
13351	8.8	87.2	99.1	3	+ 3	0	13411†	9.5	90.8	99.7	3	- 25	+ 6	13471†	9.5	72.7	95.4	3	- 13	+ 3
13352	8.5	90.1	95.8	2	+ 2	- 2	13412	9.0	84.3	98.3	3	+ 7	0	13472	9.3	75.6	99.0	5	+ 6	0
13353	8.0	75.1	96.7	2	- 2	0	13413	9.4	79.9	98.8	4	- 7	- 1	13473	8.5	75.3	99.1	3	+ 2	- 8
13354	9.5	80.1	98.3	2	- 6	0	13414	9.0	74.5	95.4	3	+ 3	+ 5	13474	9.0	74.7	98.2	4	+ 2	+ 1
13355	9.4	77.9	98.3	2	- 2	0	13415	8.9	79.8	99.7	3	+ 5	+ 4	13475	9.3	80.6	99.5	5	- 2	0
13356	9.5	72.7	95.8	2	- 6	- 1	13416	9.5	80.8	99.1	5	- 9	- 5	13476	8.3	75.8	01.4	3	+ 3	+ 3
13357	7.7	75.7	99.1	3	+ 4	0	13417	9.0	74.7	99.7	3	+ 9	+ 3	13477	8.0	76.8	99.1	3	+ 6	0
13358†	9.3	80.8	98.3	2	- 10	+ 2	13418	8.5	75.3	95.4	3	0	+ 1	13478†	5.7	78.0	95.4	3	+ 7	+ 3
13359	7.9	75.3	98.3	2	+ 6	- 4	13419	9.4	81.8	98.4	4	- 7	+ 4	13479	7.0	74.8	98.3	3	+ 9	0
13360	7.5	75.6	96.7	2	+ 4	+ 4	13420	8.9	77.2	99.1	3	+ 5	+ 2	13480	9.4	79.8	98.3	3	0	+ 1
13361	9.0	76.3	96.7	2	+ 2	+ 1	13421	9.2	84.8	99.7	3	- 3	+ 1	13481†	9.5	81.9	98.3	3	- 14	+ 1
13362	9.5	73.7	98.3	2	+ 2	- 2	13422	8.2	75.6	98.3	3	+ 4	- 4	13482	7.8	75.8	95.4	3	+ 8	0
13363	9.4	75.0	98.3	2	+ 7	+ 2	13423	9.1	76.7	99.3	6	+ 4	- 1	13483	9.3	76.8	99.1	3	+ 2	0
13364	9.5	76.2	01.8	2	- 7	- 2	13424	7.7	74.8	95.4	3	+ 2	0	13484	9.0	75.8	98.2	4	0	- 1
13365	8.9	78.1	98.3	2	- 7	0	13425	9.4	84.1	98.8	4	- 3	+ 1	13485	9.4	78.9	98.0	3	- 7	+ 2
13366	7.4	75.7	00.5	4	+ 1	- 4	13426†	...	...	...	...	...	...	13486	9.4	82.8	99.1	3	- 7	+ 4
13367	9.3	76.2	98.4	3	- 3	+ 1	13427	8.4	77.6	95.4	3	+ 1	+ 1	13487	7.5	76.5	99.1	3	+ 5	- 2
13368	8.6	75.0	96.7	2	+ 1	0	13428	8.9	79.7	99.7	3	+ 1	- 1	13488	9.4	75.8	98.3	3	- 2	+ 4
13369	9.5	75.4	01.8	2	- 6	0	13429	9.1	86.2	99.0	4	- 5	0	13489	9.4	79.8	01.4	3	- 5	0
13370	9.2	78.2	98.4	3	- 4	+ 1	13430	9.5	74.3	99.0	4	+ 2	- 2	13490	9.5	81.8	99.1	5	- 2	0
13371	9.2	77.3	98.3	2	- 2	0	13431†	9.5	90.8	99.7	3	- 12	+ 4	13491	9.1	83.6	00.0	4	- 1	+ 2
13372	8.5	75.2	98.4	3	+ 9	+ 2	13432	9.1	75.3	99.3	6	- 2	- 1	13492†	8.5	75.4	97.1	3	+ 8	0
13373	9.5	73.7	99.5	3	0	+ 2	13433	8.7	78.3	98.2	4	+ 2	+ 3	13493	9.5	83.3	93.8	2	- 8	+ 2
13374	9.0	75.8	96.7	2	- 4	+ 2	13434	9.1	76.8	99.7	4	- 8	0	13494	9.5	82.2	99.1	5	0	- 3
13375	9.5	73.8	97.3	4	- 4	- 2	13435	9.0	79.2	99.7	4	0	+ 2	13495	9.4	82.3	93.8	2	- 2	- 3
13376	9.0	77.8	98.3	2	0	+ 1	13436	9.2	74.8	96.3	2	- 1	0	13496	9.3	80.8	93.8	2	- 3	+ 1
13377	8.9	74.2	97.3	4	+ 1	- 9	13437	6.8	78.8	97.1	3	+ 4	- 2	13497	8.0	76.2	98.8	5	+ 5	0
13378	9.2	81.1	98.4	3	+ 2	+ 4	13438	9.0	74.8	98.3	3	+ 3	+ 1	13498	8.5	75.2	98.0	3	+ 5	- 1
13379†	9.4	75.8	98.4	3	+ 11	0	13439	7.5	75.0	98.4	4	+ 1	- 2	13499	9.0	74.8	99.6	4	- 5	- 1
13380	9.0	75.3	01.1	3	- 1	- 2	13440	9.0	74.8	98.3	3	+ 4	- 2	13500	8.6	76.8	97.7	4	+ 3	+ 4



Cambridge. -			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
13501	8.5	75.5	97.1	3	0	0	13561	8.5	77.3	97.5	3	-1	+1	13621†	8.9	75.2	98.0	3	-3	-2
13502	9.2	79.9	95.3	2	-2	0	13562	9.0	80.1	99.3	2	-2	+6	13622	9.4	73.9	94.3	2	-4	-2
13503	8.6	76.9	98.0	3	+1	0	13563	9.5	73.7	98.0	3	+2	+2	13623	9.0	74.1	00.2	2	0	+3
13504	9.0	74.1	93.8	2	-1	-1	13564	8.4	75.5	97.8	2	+2	-1	13624	8.9	76.1	95.3	2	+2	+4
13505	6.7	76.2	97.7	4	+2	0	13565	9.1	78.1	99.3	2	-4	+4	13625	8.6	88.8	01.7	2	-4	-1
13506	8.8	77.8	97.8	3	+2	+2	13566	9.5	81.8	97.8	2	-8	0	13626	9.5	73.7	98.0	3	+4	-4
13507	9.0	77.4	95.3	2	-4	-3	13567	9.0	73.2	00.0	3	-2	-1	13627	8.4	85.5	01.7	2	0	-1
13508	9.0	76.8	95.3	2	-4	-6	13568	8.3	78.0	97.8	2	-2	0	13628	8.7	77.9	00.0	3	+1	+1
13509	9.2	80.8	97.1	3	-2	+1	13569	9.0	77.6	94.3	2	+3	-4	13629	7.9	74.0	98.0	3	-2	-6
13510	9.1	76.8	98.8	2	-3	+4	13570†	8.0	75.8	97.8	2	0	-3	13630	9.5	79.3	00.2	4	-5	+3
13511	8.3	75.8	94.1	3	+9	-2	13571	7.0	75.1	94.1	3	+7	-3	13631	8.0	75.3	94.5	3	+2	+1
13512	9.2	74.8	98.0	3	-3	-5	13572	9.2	77.0	99.0	4	0	+1	13632†	8.6	74.5	00.2	2	0	-3
13513	9.0	79.9	95.3	2	-4	0	13573	8.8	77.2	95.9	6	+1	-1	13633	8.5	75.8	00.2	2	+2	-1
13514	9.0	76.6	98.8	2	-5	+4	13574	9.0	85.2	99.4	4	-8	+2	13634	8.7	77.8	00.2	2	+2	-4
13515	8.8	76.6	94.1	3	+2	0	13575	7.5	76.1	97.2	4	+9	+1	13635	9.0	73.1	00.0	3	+5	-2
13516	9.3	76.1	98.3	3	-3	-6	13576	9.4	77.9	97.2	4	0	+1	13636	9.0	75.2	00.0	3	+8	+2
13517	8.1	82.3	96.6	4	+4	+1	13577	8.5	78.3	00.0	3	-2	-6	13637	9.4	81.9	00.2	2	-2	+2
13518	8.1	76.8	96.6	4	-1	-2	13578	9.0	74.8	97.8	2	0	0	13638	8.8	78.8	00.2	2	0	+1
13519	8.5	77.8	94.1	3	+1	-1	13579	9.0	85.5	99.3	2	0	0	13639	8.9	80.2	00.2	2	+6	0
13520	9.0	75.8	98.3	3	+2	-8	13580	9.3	79.8	97.5	4	+5	-4	13640	9.0	74.5	94.8	4	0	0
13521	8.4	76.3	96.6	4	+2	-1	13581	7.1	85.2	99.3	2	0	0	13641	6.3	92.8	01.8	2	+6	+7
13522	9.1	84.8	93.7	2	+2	+3	13582	9.0	77.4	97.2	4	+5	+2	13642	9.1	78.8	00.2	2	-2	+2
13523	8.4	84.6	96.6	4	+2	+2	13583	8.0	78.8	97.8	2	+2	0	13643	9.1	79.6	00.2	2	-2	+2
13524	8.7	74.8	98.3	3	+6	-1	13584	8.6	75.6	97.2	4	+2	+2	13644	8.6	74.6	98.0	3	-4	+1
13525	9.3	79.9	95.3	2	-1	+2	13585	8.7	76.8	99.4	3	+4	+2	13645	9.3	75.3	94.3	2	0	0
13526	9.0	75.9	97.2	4	-1	+2	13586	9.0	74.8	94.1	3	-2	0	13646†	5.1	74.0	00.0	3	+4	-2
13527†	9.4	80.8	94.1	3	-11	+7	13587	8.6	79.1	99.4	4	+1	0	13647	9.0	76.8	01.7	2	+3	+3
13528	9.3	78.6	94.1	3	-3	+2	13588	9.5	72.8	99.4	3	-9	-2	13648	9.3	79.3	00.2	2	-7	0
13529	9.4	75.6	95.3	2	0	-3	13589	8.2	76.6	94.3	2	+3	+2	13649	9.3	77.8	00.2	2	-4	0
13530	8.7	75.8	96.6	4	+2	-1	13590	8.7	79.0	97.2	4	0	+3	13650†	9.0	73.8	98.0	3	+9	-1
13531	9.0	75.3	98.0	3	0	-3	13591	8.9	75.5	98.0	3	+2	0	13651	9.3	75.8	00.0	3	-2	-2
13532	8.0	76.8	97.7	4	+4	0	13592	8.0	79.4	95.3	2	+4	-1	13652	9.0	72.8	00.2	2	-9	-4
13533	9.0	74.1	98.0	3	0	0	13593	8.9	76.1	95.3	2	+6	+2	13653†	9.5	81.9	01.1	3	-13	+4
13534	9.4	81.9	95.3	2	-4	0	13594	9.0	73.6	00.0	3	+2	+1	13654	9.5	75.1	94.3	2	+2	0
13535	9.3	86.4	98.0	3	-6	+2	13595	9.0	79.6	00.0	3	+1	-1	13655	8.9	73.5	01.1	3	+2	-3
13536	9.0	75.4	98.3	3	0	+2	13596	7.4	75.5	97.8	2	+4	0	13656	7.8	78.6	98.0	3	-1	0
13537	8.7	77.6	98.0	3	-3	+2	13597	9.0	76.8	94.3	2	-4	-2	13657	9.5	80.8	95.3	2	-4	-6
13538	9.3	79.8	00.1	3	-3	-1	13598	9.5	73.8	94.3	2	+3	0	13658	8.9	74.6	98.0	3	+3	+2
13539	8.9	76.6	98.7	4	+4	+2	13599	8.8	84.8	99.4	3	-4	+7	13659	9.3	80.5	94.3	2	-6	0
13540	8.0	74.8	96.8	3	+2	0	13600	8.2	85.3	97.8	2	-2	-6	13660†	3.0	Fund.	00.6	4	+6	-3
13541	9.0	75.6	96.8	3	-2	+1	13601	8.7	74.3	98.4	4	+2	0	13661	9.5	74.5	95.3	2	+2	+2
13542	9.1	79.8	98.1	5	-1	+4	13602	9.4	81.8	00.0	3	+5	-2	13662	8.7	78.2	95.3	2	+4	0
13543	8.6	92.8	98.7	4	0	+4	13603	9.4	74.4	98.0	3	-5	-4	13663	8.7	80.1	94.8	3	+2	+2
13544	9.1	73.8	97.5	3	-1	0	13604	9.0	79.3	98.0	3	-2	0	13664†	8.1	76.1	00.6	4	+24	+1
13545	8.4	78.1	97.5	3	+3	0	13605	7.8	78.1	97.8	2	+6	-2	13665	8.0	77.6	98.0	3	-1	-3
13546	9.5	73.7	97.5	3	0	0	13606	8.8	76.1	99.4	3	+6	+1	13666	9.5	90.8	00.8	3	-9	0
13547	6.8	77.2	94.3	2	+4	0	13607	8.5	76.8	97.8	2	+2	-1	13667	8.7	80.0	94.3	2	-2	0
13548	8.8	88.8	96.8	3	-2	+1	13608	8.8	79.1	94.3	2	-3	-1	13668	8.2	76.8	00.5	5	+6	-5
13549	9.3	92.8	96.8	3	-5	+5	13609	8.1	78.8	97.8	2	+4	0	13669	8.0	76.7	00.5	4	+3	-3
13550	9.3	75.8	97.5	3	-8	-1	13610	9.0	85.2	01.9	4	-6	0	13670	9.5	73.7	00.8	3	-5	+1
13551	8.9	79.8	98.9	4	-3	+2	13611	9.0	75.2	00.4	4	0	0	13671	9.1	84.8	01.7	2	-6	-2
13552	7.0	76.3	97.8	2	+3	0	13612	9.5	75.8	00.4	4	+1	+3	13672	8.2	79.9	96.9	5	+3	-1
13553	8.6	77.6	98.9	4	0	0	13613	9.0	75.3	01.9	4	+2	0	13673†	9.1	73.8	00.5	4	0	+2
13554	9.0	74.4	98.0	3	-2	+2	13614†	9.3	73.5	01.9	4	-10	+3	13674	9.3	81.5	00.8	3	-3	0
13555	7.0	75.6	99.3	2	+5	0	13615	9.5	80.1	01.9	4	-4	-2	13675	8.6	81.8	00.8	3	-1	0
13556	9.5	73.8	97.5	3	-7	-2	13616	8.5	80.1	01.9	4	+3	+2	13676	9.5	73.8	94.8	3	-7	-5
13557	9.0	74.4	98.0	3	0	-2	13617	9.3	75.1	94.3	2	-6	+2	13677	8.7	79.8	94.8	3	0	+1
13558	8.1	76.7	97.8	2	+2	-4	13618	9.4	81.9	98.7	3	-5	+1	13678	9.0	75.8	00.8	3	+2	+1
13559	9.5	76.8	97.5	3	-5	+5	13619	9.0	74.6	95.3	2	-1	+2	13679	9.2	79.9	01.7	2	-3	+1
13560	8.5	80.4	97.5	3	-1	-1	13620	8.9	78.0	95.3	2	0	-4	13680†	9.2	93.8	01.3	4	+18	+12



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
13681	8.6	80.8	94.5	3	+ 2	0	13741	8.9	79.6	98.8	4	- 4	0	13801	8.8	74.4	98.4	3	+ 3	0
13682	8.7	79.8	97.4	4	+ 2	+ 2	13742	8.4	76.0	00.8	3	0	- 2	13802	9.0	76.8	97.3	2	- 4	0
13683	9.0	83.5	97.4	4	- 5	- 3	13743	6.7	76.8	93.9	2	+ 2	- 2	13803	9.2	74.8	97.3	2	+ 4	+ 2
13684†	8.5	82.4	01.3	4	0	- 1	13744	8.7	74.1	94.2	2	+ 4	- 2	13804	10.0	77.4	96.8	2	- 9	0
13685†	7.2	80.3	00.8	3	- 11	- 23	13745	8.8	81.8	95.3	2	0	0	13805	9.1	83.8	95.3	2	- 4	+ 2
13686	9.2	93.1	01.7	2	- 8	+ 6	13746	9.0	80.3	93.9	2	+ 2	- 1	13806	9.0	74.3	94.3	2	- 2	0
13687	8.7	80.1	00.5	4	+ 2	- 4	13747	8.8	92.8	01.7	3	- 7	+ 5	13807†	9.2	75.8	97.3	2	+ 12	+ 2
13688	9.4	83.8	00.8	3	- 3	0	13748	7.8	76.3	00.8	3	+ 1	0	13808	8.6	77.5	97.3	2	+ 5	- 2
13689	9.3	80.2	01.7	2	- 3	+ 6	13749	8.9	80.7	01.7	3	- 1	+ 3	13809	9.3	74.2	95.8	2	- 2	0
13690	9.3	90.1	00.5	4	- 5	+ 1	13750†	9.1	75.8	00.3	4	+ 12	+ 4	13810	8.9	76.5	97.3	2	+ 4	- 3
13691†	9.4	83.8	93.9	2	- 12	+ 2	13751†	9.0	82.1	00.3	4	- 5	- 4	13811	9.0	75.3	96.8	2	+ 4	- 4
13692	9.0	77.8	97.7	4	+ 2	+ 2	13752	8.7	81.8	98.1	3	- 5	+ 2	13812	8.6	73.2	95.8	2	+ 5	0
13693	9.0	83.2	01.3	4	- 4	- 1	13753	8.5	76.1	98.3	4	+ 2	0	13813	8.0	75.1	95.2	3	+ 2	- 3
13694	8.2	84.1	95.3	2	+ 5	- 2	13754†	8.9	78.8	00.3	4	- 6	- 6	13814	9.5	73.7	95.8	2	- 3	+ 2
13695†	9.0	88.3	93.9	2	- 15	- 1	13755	9.0	80.8	98.8	5	+ 1	+ 2	13815†	7.7	84.8	95.3	2	+ 5	- 2
13696	9.4	78.9	00.5	4	- 1	+ 2	13756	8.3	78.6	00.3	4	+ 5	+ 3	13816	9.5	75.6	95.8	2	- 4	0
13697	9.0	93.7	01.7	2	0	0	13757	9.0	82.2	98.3	3	- 6	- 2	13817	9.1	75.1	95.8	3	- 1	0
13698	7.8	88.4	93.9	2	+ 1	- 2	13758	8.8	75.2	95.8	2	- 3	- 1	13818	9.5	92.8	96.8	2	- 1	+ 5
13699	8.4	83.8	93.9	2	+ 2	0	13759	9.3	74.8	95.8	3	- 5	+ 2	13819	9.0	75.3	96.3	2	- 2	0
13700	7.6	82.8	93.9	2	+ 3	- 2	13760	7.4	78.0	96.1	3	+ 4	- 4	13820	9.0	80.2	96.3	2	- 4	+ 2
13701	9.0	78.1	00.8	3	0	- 3	13761	9.1	84.8	96.1	3	- 6	+ 2	13821	8.9	82.8	97.3	2	- 4	+ 2
13702	9.4	84.3	00.5	4	+ 1	+ 4	13762	8.8	79.4	96.1	3	+ 2	- 1	13822	9.0	73.5	95.8	2	- 4	+ 1
13703	9.4	74.8	01.7	2	- 7	+ 2	13763	9.5	82.3	96.1	3	+ 3	+ 5	13823	8.8	75.3	96.8	2	+ 3	0
13704	8.6	81.2	99.6	5	+ 3	+ 2	13764	9.3	76.1	95.4	3	- 6	- 2	13824	8.3	73.8	96.8	2	+ 3	- 2
13705	8.2	80.4	00.8	3	+ 3	- 2	13765	7.5	76.5	01.2	2	+ 7	+ 3	13825	8.2	75.0	97.3	2	+ 1	- 2
13706	9.1	84.1	93.9	2	+ 2	- 2	13766	9.4	74.8	96.4	2	- 2	0	13826	9.0	75.6	95.3	2	0	+ 1
13707	8.6	82.2	98.7	3	+ 6	+ 3	13767	8.7	74.3	01.2	2	0	0	13827	8.6	75.4	95.8	2	- 2	- 3
13708	9.0	79.1	99.4	3	0	+ 1	13768	9.5	73.8	96.8	2	- 2	- 6	13828	8.5	73.8	95.9	3	+ 7	+ 2
13709	8.2	76.8	00.8	3	+ 3	- 6	13769	7.5	74.5	95.8	2	+ 2	- 3	13829	9.0	78.3	96.9	3	- 3	- 1
13710	9.3	83.8	01.7	2	+ 2	- 1	13770	8.8	78.8	96.4	2	- 2	- 1	13830	8.8	76.5	96.9	3	- 1	- 1
13711	9.4	83.8	00.8	4	- 2	0	13771	9.2	79.8	95.3	2	+ 2	0	13831	9.3	77.8	96.5	3	- 1	- 1
13712	8.5	83.8	01.4	3	+ 5	- 3	13772	7.7	74.7	95.3	2	- 5	- 4	13832	9.0	79.2	94.8	3	+ 2	0
13713	8.3	83.1	94.2	3	+ 4	- 1	13773	9.0	75.5	96.8	2	+ 2	0	13833	8.5	79.1	97.0	5	+ 5	0
13714	9.1	82.4	00.8	4	0	+ 1	13774	9.0	79.0	95.3	2	+ 2	0	13834	9.2	75.1	97.3	2	+ 4	- 4
13715	8.1	78.1	98.6	3	- 1	- 1	13775	9.3	75.4	96.4	2	0	+ 2	13835	7.8	86.3	96.9	3	+ 6	+ 2
13716†	8.5	83.8	00.5	4	- 5	- 8	13776	8.8	78.8	99.7	2	- 1	+ 2	13836†	9.0	78.7	96.9	3	- 11	- 4
13717	9.5	83.8	95.1	3	- 6	- 1	13777	8.7	74.6	95.8	2	+ 2	- 2	13837	9.0	75.8	94.8	3	- 3	- 2
13718	8.0	83.8	94.2	3	+ 5	- 1	13778	9.0	73.8	96.8	2	0	+ 2	13838†	9.5	86.8	96.8	3	- 17	+ 1
13719	9.5	79.9	95.1	3	+ 1	+ 1	13779	9.2	76.6	96.8	2	0	+ 2	13839	8.2	75.1	95.7	3	+ 8	+ 1
13720	9.2	88.3	94.2	2	- 6	+ 6	13780	7.7	73.4	95.3	2	+ 4	- 2	13840	9.0	81.5	96.8	3	- 4	- 3
13721	9.2	90.4	01.4	3	- 4	+ 1	13781	9.0	75.1	01.3	2	- 4	+ 2	13841†	...	...	...	...	...	...
13722†	9.5	85.3	94.2	3	- 16	+ 6	13782	9.0	74.5	96.8	2	+ 2	0	13842	9.5	79.9	95.3	2	- 4	- 2
13723	9.5	75.8	94.2	2	0	- 2	13783	9.0	80.1	99.7	2	+ 2	0	13843	8.2	75.1	94.2	2	+ 3	0
13724	8.6	80.8	95.1	3	+ 4	- 2	13784	8.3	75.8	01.3	2	+ 2	+ 1	13844	9.0	84.9	95.3	2	- 5	+ 4
13725	9.1	84.8	94.6	4	+ 2	+ 4	13785	9.5	73.8	96.4	2	- 2	0	13845	9.5	82.1	94.2	2	0	+ 2
13726	7.5	82.8	94.6	4	+ 9	- 2	13786	9.5	90.9	95.8	2	+ 2	+ 4	13846	8.4	78.3	95.7	2	- 4	0
13727†	9.2	80.9	00.8	3	+ 2	- 2	13787	9.0	75.3	95.9	3	+ 6	0	13847	8.9	77.8	95.3	2	- 2	- 2
13728	8.5	81.2	01.7	2	- 3	+ 4	13788	9.5	74.3	95.8	3	0	- 2	13848†	9.0	92.8	98.8	2	- 17	+ 4
13729	8.9	78.3	00.8	3	+ 2	- 2	13789	9.0	74.5	99.7	2	- 2	- 2	13849	9.1	72.8	94.2	2	- 6	- 4
13730	9.4	85.8	94.6	4	- 8	- 2	13790	8.9	76.1	01.3	2	- 4	- 2	13850	8.7	82.6	94.2	2	+ 2	- 2
13731	9.2	80.9	95.3	2	- 4	- 2	13791	8.9	78.9	96.2	3	- 1	0	13851	8.3	78.8	95.3	2	+ 3	0
13732	8.9	81.1	94.4	3	+ 1	- 5	13792†	9.5	78.6	96.2	3	- 10	+ 1	13852	9.5	92.3	95.3	2	+ 8	+ 2
13733	7.8	80.8	98.2	3	+ 5	0	13793	9.0	78.1	95.3	2	+ 2	+ 2	13853	9.3	83.7	95.7	2	0	- 2
13734	8.4	81.8	01.7	2	+ 1	+ 2	13794	8.5	77.6	96.2	3	+ 2	- 1	13854	8.6	92.8	95.3	2	- 4	- 2
13735	8.7	78.8	98.2	3	+ 3	+ 1	13795	9.5	72.8	98.4	3	- 4	+ 5	13855	9.0	81.8	95.7	2	0	0
13736	8.6	82.3	95.3	2	- 2	+ 5	13796	9.2	83.3	94.8	3	- 2	+ 3	13856	9.4	88.4	95.3	2	0	- 4
13737	9.4	82.3	00.8	3	- 3	0	13797	9.5	76.6	94.5	3	- 3	- 1	13857	8.2	79.2	95.7	2	- 1	- 6
13738	9.0	79.1	94.4	3	+ 4	+ 2	13798	9.0	73.3	94.5	3	- 1	- 1	13858†	var.	Fund.	95.3	2	+ 18	+ 8
13739	8.8	80.3	95.3	2	+ 3	+ 2	13799	9.5	74.8	94.8	3	+ 8	+ 1	13859	8.9	92.8	94.2	2	- 7	0
13740	8.5	73.0	98.2	3	+ 3	+ 1	13800	9.1	77.5	94.5	3	- 2	+ 4	13860†	9.5	93.8	95.3	2	- 12	- 1



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
13861	9.5	84.3	95.3	2	+ 2	+ 6	13921	9.1	84.8	98.8	2	+ 2	- 2	13981	9.4	81.9	93.9	2	- 4	- 2
13862	8.4	77.4	94.2	2	+ 8	+ 2	13922	9.2	78.3	95.7	2	- 2	- 2	13982	8.9	79.2	95.3	2	- 2	0
13863	8.7	85.0	95.3	2	- 5	0	13923	7.0	73.1	95.7	2	+ 2	0	13983	9.2	78.5	95.3	2	- 5	+ 5
13864	9.0	93.9	98.8	2	- 2	+ 2	13924	9.0	75.1	95.3	2	- 4	- 3	13984	8.5	73.6	97.2	3	- 2	+ 1
13865	9.1	79.5	95.7	2	- 4	+ 3	13925	8.3	74.8	95.3	2	+ 6	+ 2	13985†	7.0	78.7	95.3	2	+ 6	0
13866	9.3	75.8	96.1	3	+ 3	0	13926	9.1	85.9	95.3	2	- 2	- 1	13986	9.0	80.0	97.2	3	+ 4	- 2
13867	8.6	82.1	95.3	2	0	0	13927	9.2	75.3	95.4	3	- 4	+ 3	13987	9.3	73.8	97.2	3	- 7	- 6
13868	9.0	79.8	95.3	2	0	+ 2	13928	9.3	77.8	95.3	2	- 2	- 1	13988	9.0	78.8	97.2	3	- 5	- 2
13869	9.5	73.3	95.7	2	- 3	0	13929	9.1	82.9	95.7	3	+ 2	+ 3	13989	8.0	79.8	97.2	3	+ 8	- 1
13870	8.3	75.5	95.3	2	+ 4	0	13930	9.0	75.3	95.5	4	+ 3	0	13990	7.0	79.6	97.2	3	+ 6	0
13871	8.8	78.8	95.3	2	- 4	+ 2	13931	9.5	73.9	98.1	3	+ 2	0	13991	9.5	81.9	97.2	3	- 5	0
13872	8.5	73.8	96.8	3	+ 3	0	13932	9.5	80.8	95.4	3	- 5	0	13992†	7.0	74.6	95.3	2	+ 4	0
13873	9.2	80.8	94.2	2	+ 2	+ 3	13933	7.2	73.5	98.1	3	+ 4	- 1	13993†	7.8	73.8	95.3	2	- 12	0
13874†	9.3	93.9	94.8	3	+ 12	- 3	13934	8.2	74.2	98.1	3	+ 4	- 2	13994	8.9	74.3	95.1	3	- 3	- 4
13875	9.5	84.3	96.1	3	- 3	+ 6	13935	8.9	78.7	98.1	3	+ 5	+ 3	13995	8.2	77.2	96.1	3	0	+ 1
13876	7.7	73.8	96.1	3	+ 2	- 3	13936	8.8	75.7	95.3	2	0	- 1	13996†	8.0	74.8	01.7	2	+ 28	+ 6
13877	7.5	75.5	94.2	2	+ 8	+ 1	13937	8.0	74.8	95.4	3	+ 6	- 1	13997	8.6	78.4	97.6	4	+ 7	- 2
13878	9.0	73.8	95.3	2	- 2	- 4	13938	9.4	80.4	95.5	3	- 5	+ 1	13998	8.9	74.3	01.7	2	- 3	- 4
13879	8.0	75.5	98.8	2	+ 2	+ 2	13939	8.3	74.6	98.1	3	+ 1	+ 1	13999	8.7	93.2	97.6	4	+ 1	0
13880	8.3	74.3	94.4	3	0	0	13940	7.5	74.5	95.7	2	+ 5	- 1	14000	8.0	80.7	96.1	3	+ 3	- 1
13881	8.6	75.8	95.8	3	- 1	- 2	13941	9.1	82.3	95.3	2	- 1	+ 1	14001	9.1	73.4	97.6	4	- 6	+ 2
13882	9.5	73.3	96.7	2	- 5	- 6	13942	8.5	74.2	96.7	2	+ 6	0	14002	7.8	74.1	98.2	2	- 5	- 2
13883	9.4	79.9	95.8	3	- 2	+ 6	13943	9.0	79.9	98.1	3	- 5	+ 2	14003	9.5	81.9	97.6	4	- 5	+ 1
13884	9.0	79.9	95.8	3	+ 2	+ 1	13944	9.5	79.9	98.1	3	- 4	- 4	14004	9.1	74.3	96.2	3	- 2	0
13885	7.7	76.8	97.3	4	+ 1	+ 1	13945	9.1	84.8	96.7	2	0	+ 2	14005	8.0	75.6	96.1	4	+ 6	+ 1
13886	9.0	83.8	94.4	3	- 5	0	13946	9.3	77.6	96.7	2	0	0	14006	7.7	74.4	98.2	2	+ 2	0
13887	9.0	74.8	94.4	3	- 2	+ 2	13947	9.5	81.9	96.1	3	- 7	+ 1	14007	9.4	89.5	97.6	4	0	+ 2
13888	8.2	93.5	97.8	3	+ 4	+ 2	13948	9.5	79.9	95.7	2	- 4	- 2	14008	8.8	84.8	01.7	2	0	0
13889	9.4	81.9	95.8	3	+ 1	+ 3	13949	9.1	83.1	98.1	3	+ 1	+ 2	14009	9.5	80.8	99.1	3	- 2	+ 3
13890	8.8	76.5	97.8	3	+ 3	+ 2	13950	8.3	75.8	95.3	2	- 2	0	14010	9.1	74.4	96.2	3	- 3	+ 2
13891	9.3	79.9	95.7	2	+ 3	+ 4	13951	8.8	74.2	98.1	3	- 1	0	14011	9.0	75.8	96.2	3	- 8	0
13892	9.0	75.1	97.8	2	+ 4	+ 4	13952†	6.5	75.8	96.7	2	- 8	- 8	14012	9.4	81.9	96.9	2	- 3	+ 4
13893	9.5	81.9	95.7	2	- 4	+ 2	13953	8.4	74.9	97.3	4	+ 1	+ 1	14013	8.5	80.5	96.4	2	+ 4	0
13894†	5.0	84.8	96.8	2	+ 3	- 4	13954	9.5	81.9	96.1	3	- 8	+ 1	14014	9.5	73.9	01.7	2	- 9	+ 2
13895	9.3	84.6	95.3	2	- 5	+ 1	13955	9.0	73.8	99.2	2	+ 2	+ 1	14015	7.2	80.8	98.2	2	0	- 4
13896	9.4	75.7	96.4	2	- 4	+ 1	13956	9.0	74.8	95.3	2	0	+ 2	14016	7.3	78.7	95.9	3	+ 3	- 2
13897	7.0	74.5	95.7	2	+ 3	0	13957	9.5	75.8	95.3	2	0	0	14017	9.2	74.3	97.2	3	- 2	0
13898	9.1	85.9	97.8	2	- 2	+ 2	13958	8.2	85.6	97.3	4	+ 1	+ 2	14018	9.0	76.5	96.4	2	- 2	+ 2
13899	9.5	79.8	96.7	2	- 1	0	13959	8.9	76.5	95.4	3	- 5	- 4	14019	8.4	80.6	96.4	2	0	- 1
13900	9.3	73.8	97.8	2	+ 2	- 2	13960	9.4	79.9	95.3	2	- 4	- 2	14020	9.0	82.2	96.4	2	- 1	0
13901	7.4	77.6	95.7	2	+ 8	0	13961	9.0	74.3	96.1	3	+ 4	+ 2	14021	7.0	81.9	95.9	3	+ 3	- 2
13902	8.8	86.2	98.8	2	+ 2	- 2	13962	8.9	78.4	96.1	3	+ 1	+ 4	14022	9.3	81.9	95.9	3	0	0
13903	8.5	76.1	98.8	2	- 4	- 2	13963	9.4	74.8	99.2	2	- 4	+ 3	14023	9.3	74.6	96.8	2	- 4	- 2
13904	8.0	73.7	95.7	2	+ 4	0	13964	9.0	77.2	97.0	5	- 1	- 2	14024	9.0	84.8	96.8	2	+ 3	0
13905	9.3	77.4	95.3	2	- 4	0	13965	6.5	76.0	95.3	2	+ 4	- 4	14025	8.0	76.2	96.8	2	+ 5	- 2
13906	9.1	76.8	95.7	2	- 1	0	13966	9.5	81.9	97.3	4	- 4	+ 1	14026	9.4	80.8	96.8	2	+ 6	- 1
13907	8.6	80.3	97.8	3	- 4	- 1	13967†	8.9	74.2	96.1	3	+ 15	- 7	14027	8.0	79.6	95.9	3	+ 2	- 5
13908	9.1	84.9	97.1	3	- 6	+ 3	13968	9.1	74.6	96.1	3	+ 1	+ 3	14028	9.0	84.8	99.6	4	+ 2	+ 2
13909	8.5	80.4	95.7	2	+ 6	0	13969	8.9	74.3	95.7	2	0	+ 1	14029	9.5	79.8	96.4	2	- 6	0
13910	8.4	79.7	95.7	2	+ 2	+ 2	13970	9.4	81.9	97.3	4	- 3	+ 2	14030†	8.5	75.3	98.9	3	+ 53	- 4
13911	8.8	76.9	98.2	5	+ 2	- 1	13971	8.5	77.3	95.3	2	+ 4	- 2	14031	8.5	75.8	98.9	3	+ 1	+ 2
13912	7.2	74.8	95.3	2	+ 4	0	13972	9.3	80.5	95.3	2	0	+ 4	14032	9.0	80.3	00.8	3	- 3	- 1
13913	8.5	79.0	97.8	3	+ 4	- 1	13973	8.8	75.2	95.4	3	+ 4	0	14033†	9.4	73.8	96.9	2	- 2	+ 1
13914	8.5	75.4	96.2	3	+ 1	- 1	13974	9.5	75.4	95.7	2	- 4	0	14034†	9.5	81.9	96.4	2	- 17	0
13915	9.0	76.0	98.8	2	0	+ 2	13975	9.5	81.9	95.3	2	- 4	+ 2	14035	8.8	77.2	96.4	2	+ 8	- 2
13916	9.5	81.9	95.7	2	0	- 2	13976	9.5	73.8	95.3	2	- 4	+ 4	14036	9.2	85.4	99.0	5	- 5	+ 1
13917	8.0	74.3	97.5	4	0	0	13977	9.1	78.9	95.7	2	+ 7	- 2	14037	8.7	78.8	96.4	2	+ 4	+ 4
13918	9.5	81.9	96.2	3	- 3	+ 1	13978	7.0	78.9	95.7	2	+ 2	- 2	14038	8.8	75.4	98.8	5	+ 2	+ 2
13919	7.5	73.8	97.1	3	+ 4	+ 2	13979	8.8	74.2	95.7	2	- 2	- 2	14039	9.2	79.6	96.4	2	0	0
13920	9.0	75.3	96.1	4	0	- 2	13980	9.2	79.2	99.2	2	- 6	0	14040	9.0	83.6	98.9	3	- 7	+ 2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.	No.	Mag.	Epoch.	Epoch.	Plates.	Δξ.	Δη.
14041	6.3	81.3	00.8	3	+ 6	- 7	14101	8.5	76.7	99.2	3	+ 4	- 1	14161	9.3	74.3	95.8	2	- 6	- 4
14042	8.5	75.1	98.9	3	- 6	- 2	14102	8.5	73.2	98.9	3	- 3	- 2	14162	9.3	75.9	97.9	2	- 2	+ 2
14043	9.0	81.3	96.4	2	+ 2	+ 3	14103	8.8	78.9	98.9	3	+ 1	- 1	14163	8.8	77.6	01.7	2	+ 2	0
14044	8.8	80.9	96.4	2	- 4	0	14104	9.5	73.8	99.3	4	0	+ 4	14164	9.3	90.9	95.8	2	0	+ 4
14045	9.2	84.8	98.8	5	+ 2	+ 1	14105†	9.5	72.8	98.9	3	- 11	+ 6	14165	8.6	80.1	98.2	2	+ 1	+ 4
14046	9.1	83.8	96.4	2	0	- 4	14106	9.4	75.9	98.9	3	- 4	0	14166	9.2	79.2	95.8	2	- 2	- 4
14047	8.9	80.8	98.9	3	- 5	+ 1	14107	8.9	92.8	00.4	3	- 7	+ 3	14167	9.2	75.9	98.2	2	+ 4	+ 1
14048	9.4	81.9	96.4	2	- 8	+ 1	14108	8.7	79.6	97.6	5	+ 3	- 1	14168	9.3	75.6	93.4	2	- 2	+ 4
14049	8.6	78.4	98.9	3	+ 5	+ 2	14109†	8.7	75.2	98.7	6	+ 10	- 4	14169	9.5	73.9	95.8	2	+ 2	- 4
14050	9.1	78.9	99.4	4	- 2	+ 5	14110	9.5	73.8	95.2	2	+ 2	+ 3	14170	8.7	74.1	98.9	2	- 2	0
14051	9.2	84.8	98.7	4	+ 2	0	14111	9.0	76.5	98.1	4	+ 4	- 1	14171	9.3	76.2	98.2	2	- 3	+ 2
14052	9.4	81.9	96.4	2	- 3	+ 2	14112	9.0	80.1	98.2	5	0	+ 1	14172	9.5	73.8	93.4	2	- 2	- 1
14053	9.2	73.5	00.8	3	- 6	0	14113	9.4	81.9	95.3	2	0	+ 2	14173	7.3	77.1	98.9	2	- 2	- 2
14054	9.1	82.8	96.4	2	+ 4	0	14114	8.9	80.8	98.2	5	+ 8	+ 1	14174	9.0	76.4	98.9	2	0	- 2
14055	8.7	83.8	00.8	3	+ 2	0	14115	9.5	73.9	98.3	4	- 6	- 2	14175	9.5	81.9	97.8	2	- 2	+ 4
14056	6.3	74.2	99.6	5	- 3	- 5	14116	9.2	76.2	95.2	3	+ 1	0	14176†	8.5	77.9	97.8	2	+ 12	0
14057†	7.2	75.0	98.9	3	+ 10	- 5	14117	9.5	81.9	95.3	2	- 4	+ 2	14177	9.5	81.9	97.8	2	+ 2	- 2
14058	8.5	78.2	96.4	2	- 2	+ 2	14118	8.8	78.2	95.8	2	+ 2	- 1	14178	8.0	75.4	93.5	3	+ 4	- 2
14059	8.3	74.0	98.9	3	- 3	- 2	14119	9.0	74.4	98.7	6	- 5	- 4	14179	8.8	76.6	95.2	3	0	+ 1
14060	6.6	73.8	00.1	4	+ 6	- 2	14120	8.4	74.9	99.6	4	+ 1	0	14180†	7.7	76.3	02.0	3	+ 19	+ 8
14061	8.5	73.8	98.8	5	+ 7	- 1	14121	8.3	76.5	95.8	2	+ 1	0	14181	9.0	74.5	98.9	2	- 1	0
14062	9.0	79.0	96.4	2	0	- 1	14122	9.0	75.2	99.6	4	- 4	0	14182	9.3	81.9	97.1	3	+ 2	+ 3
14063	9.3	77.2	96.4	2	0	- 2	14123	9.1	84.9	99.6	4	- 2	+ 2	14183	9.0	77.1	93.5	3	- 4	- 4
14064	9.4	74.9	00.1	4	- 5	+ 2	14124	9.3	79.7	99.3	2	- 4	+ 3	14184	8.9	78.5	97.4	3	+ 4	+ 1
14065	9.1	84.8	00.1	4	+ 3	+ 1	14125	9.0	74.4	95.3	2	- 2	0	14185	8.3	82.6	93.5	3	+ 3	+ 1
14066	9.4	79.8	01.7	2	- 8	- 2	14126	8.9	74.5	95.3	2	+ 5	0	14186	9.5	72.8	97.1	3	+ 2	0
14067	8.9	78.4	01.7	2	+ 4	0	14127	9.4	79.9	96.6	4	- 8	+ 1	14187	9.0	74.1	97.2	3	- 4	- 3
14068	8.8	79.9	00.8	3	+ 4	+ 3	14128	9.4	78.9	95.8	2	- 6	0	14188	9.4	75.9	93.4	2	- 9	0
14069	8.4	81.2	01.7	2	- 2	- 1	14129	8.9	84.8	96.8	3	- 1	+ 1	14189	8.5	77.6	95.8	2	0	- 1
14070	7.0	73.0	00.8	3	+ 1	+ 2	14130	7.6	89.3	99.3	2	+ 4	0	14190	8.0	74.6	93.4	2	+ 4	- 2
14071	8.0	76.8	97.8	4	+ 6	- 2	14131	9.2	73.3	95.3	2	+ 1	+ 5	14191	8.8	74.0	98.2	2	+ 2	- 4
14072	8.8	77.7	99.0	5	+ 1	- 1	14132	9.0	74.3	95.3	2	- 6	- 7	14192	9.3	73.8	95.8	2	- 4	0
14073	9.3	84.8	00.8	5	0	+ 3	14133	8.5	76.0	96.8	3	- 1	- 1	14193	9.5	75.7	97.9	2	- 1	- 4
14074	8.0	79.8	99.7	3	+ 3	- 1	14134	9.2	81.9	95.3	2	0	+ 2	14194	8.9	74.6	01.7	2	- 1	0
14075	9.5	93.3	99.5	6	- 2	+ 1	14135	9.3	76.3	99.3	2	- 7	0	14195†	6.8	76.5	98.9	2	+ 24	+ 16
14076	7.7	79.6	99.7	3	+ 9	+ 3	14136	6.2	74.8	95.3	2	+ 7	- 3	14196	9.1	84.9	98.9	2	- 6	+ 1
14077	9.0	83.4	99.7	3	- 1	0	14137	9.2	76.3	96.8	3	+ 5	0	14197	9.5	77.9	97.9	2	- 4	+ 2
14078	7.8	84.9	99.5	6	+ 3	+ 1	14138	6.6	74.4	95.3	2	+ 4	+ 1	14198†	9.1	85.2	95.8	2	- 12	0
14079	9.1	86.2	99.7	3	- 4	+ 2	14139	9.0	78.0	96.8	3	- 4	0	14199	9.4	79.9	01.7	2	- 6	+ 6
14080	8.7	79.8	99.0	5	0	+ 1	14140	8.5	88.0	96.8	3	- 2	0	14200	9.0	75.6	93.4	2	- 4	0
14081	8.8	83.8	99.0	5	- 2	+ 1	14141	8.8	74.5	95.8	2	+ 4	0	14201	6.3	81.8	97.2	3	+ 2	+ 1
14082	8.6	78.2	96.2	3	+ 9	- 2	14142	8.2	80.1	96.8	5	+ 1	- 1	14202	8.5	75.8	95.8	2	+ 4	+ 2
14083	9.5	81.9	96.2	3	- 3	+ 2	14143	9.0	79.5	96.8	5	- 1	- 1	14203†	7.5	76.2	95.8	2	+ 12	+ 1
14084	7.8	77.8	99.5	6	- 1	+ 2	14144	8.1	79.4	96.2	6	+ 3	0	14204	9.5	73.8	97.9	2	0	+ 2
14085	9.2	79.3	99.2	2	+ 3	+ 2	14145	9.1	78.4	95.9	4	0	- 1	14205	8.3	73.8	98.6	3	- 2	- 3
14086†	9.3	92.8	95.3	2	- 13	0	14146	8.6	84.8	95.9	4	+ 5	0	14206	8.1	84.9	94.2	3	+ 4	0
14087	8.4	80.5	95.3	2	+ 4	- 3	14147	9.5	74.3	95.8	3	+ 3	+ 2	14207	9.0	74.6	97.9	2	0	0
14088	7.9	83.3	95.3	2	+ 2	- 2	14148	9.0	81.2	95.8	2	0	+ 2	14208†	9.5	81.9	98.2	2	- 10	0
14089	8.0	85.9	99.6	5	+ 3	0	14149	9.0	77.2	99.7	3	- 9	+ 3	14209	9.5	72.9	94.2	3	+ 2	0
14090†	8.5	77.3	98.9	3	+ 5	- 4	14150	9.0	74.7	97.1	4	0	+ 3	14210	9.5	81.9	98.2	2	+ 3	+ 2
14091	9.2	85.5	99.0	6	- 4	+ 2	14151	9.4	81.9	96.9	3	- 7	+ 2	14211	9.3	75.3	98.6	3	+ 1	0
14092	9.5	81.9	95.3	2	- 8	+ 2	14152	9.5	81.9	96.9	3	- 9	+ 1	14212	9.0	78.6	97.9	2	- 1	- 1
14093	9.0	72.8	98.9	3	- 3	- 2	14153	8.9	80.5	97.4	3	- 6	- 6	14213	8.3	76.0	94.8	2	+ 3	- 2
14094†	8.7	74.8	98.9	3	+ 18	+ 3	14154†	7.6	79.3	97.4	3	+ 10	- 2	14214	8.9	85.2	94.8	2	+ 1	0
14095†	9.5	85.9	99.2	3	- 12	+ 2	14155	9.0	84.5	97.4	3	- 3	+ 3	14215	8.6	75.8	01.4	4	- 1	- 1
14096	9.5	77.9	99.3	4	- 9	0	14156†	9.0	75.3	95.9	4	+ 11	+ 2	14216	9.0	74.0	00.9	4	+ 3	- 1
14097	9.0	72.8	98.9	3	- 6	+ 1	14157	9.0	79.6	97.4	3	- 2	+ 1	14217	8.7	79.2	00.9	4	+ 2	0
14098	9.3	81.9	95.3	2	- 1	0	14158	9.3	92.8	93.4	2	- 8	+ 8	14218	8.8	92.8	01.4	3	- 9	+ 1
14099	9.5	73.9	99.3	2	- 2	0	14159†	8.9	74.5	95.8	2	- 2	0	14219	9.5	81.9	00.9	4	- 5	- 2
14100	9.1	86.9	95.3	2	0	+ 2	14160	8.3	74.5	98.9	2	+ 4	- 1	14220	9.0	75.2	00.8	6	+ 3	- 2



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
14221	9.4	80.4	00.9	4	- 4	+ 2	14281	8.0	74.8	01.9	3	+ 8	0	14341	8.7	75.1	95.8	2	+ 2	- 3
14222	9.2	83.8	00.9	4	- 9	- 2	14282	8.8	78.4	00.3	4	+ 8	- 2	14342†	9.5	73.9	95.8	2	+ 10	0
14223	8.8	77.2	01.1	3	0	+ 4	14283	9.1	86.4	01.9	3	- 1	- 2	14343	9.3	75.6	93.9	2	- 4	- 2
14224	9.2	75.8	01.9	3	- 3	+ 2	14284	9.1	86.4	98.2	2	- 4	0	14344	9.5	73.9	01.7	2	+ 2	+ 9
14225	9.5	81.9	98.2	2	- 4	+ 2	14285	7.8	74.8	01.9	3	- 3	- 9	14345	7.6	76.6	95.3	2	+ 4	+ 6
14226†	9.5	81.9	98.2	2	- 11	+ 2	14286	9.0	74.0	01.1	3	+ 5	+ 3	14346†	7.0	73.8	95.4	3	+ 43	- 2
14227	9.5	73.4	01.2	3	+ 3	0	14287†	9.5	78.5	01.9	3	- 12	+ 1	14347	8.6	78.5	95.3	2	+ 4	- 1
14228	9.1	85.5	99.7	3	+ 1	+ 1	14288†	8.7	75.5	95.8	3	+ 14	+ 2	14348	8.8	76.6	95.3	2	+ 2	- 2
14229	9.0	78.2	01.1	3	+ 5	- 1	14289	8.6	77.9	98.2	2	- 1	0	14349	6.3	75.4	93.9	2	+ 2	0
14230†	9.4	74.8	01.9	3	- 13	+ 3	14290†	6.8	86.9	94.2	3	- 1	- 5	14350†	9.5	81.9	95.3	2	- 10	0
14231	8.7	73.8	01.9	3	+ 9	0	14291	9.0	73.2	95.2	5	0	+ 1	14351	9.5	81.9	95.3	2	- 8	+ 2
14232	8.7	79.3	01.7	2	+ 5	- 1	14292	7.5	74.8	00.4	4	+ 2	+ 2	14352	9.5	81.9	95.3	2	- 8	+ 4
14233	9.3	75.5	01.9	3	- 4	0	14293	9.3	73.9	98.2	2	0	- 2	14353	9.5	81.9	95.3	2	- 4	+ 5
14234	8.5	73.2	01.2	3	+ 3	+ 7	14294	9.1	87.9	00.4	4	- 8	+ 4	14354	9.0	74.5	97.6	5	- 2	- 1
14235	9.2	75.1	94.8	2	- 1	- 3	14295	8.9	78.0	94.2	3	0	+ 1	14355†	9.0	78.4	95.3	2	+ 3	0
14236	9.4	77.5	98.2	2	- 6	0	14296	9.0	73.1	01.1	3	- 1	+ 1	14356	9.0	76.8	00.8	3	- 3	+ 2
14237†	9.0	74.1	01.9	3	+ 10	+ 5	14297	9.3	81.9	01.1	3	- 3	+ 2	14357	8.8	74.3	98.9	3	+ 4	+ 5
14238	9.1	81.3	01.7	2	0	+ 2	14298	9.0	79.5	94.2	3	- 5	- 2	14358	9.0	74.8	98.9	3	0	- 2
14239†	5.2	82.1	01.1	3	+ 12	- 3	14299	8.7	75.9	00.4	4	- 2	0	14359	9.1	82.4	01.7	2	- 4	- 1
14240	8.5	80.2	01.1	3	+ 4	0	14300	8.6	76.1	98.2	2	+ 4	0	14360	9.3	87.9	98.9	3	+ 7	- 5
14241	8.5	80.3	98.7	5	+ 3	- 1	14301	7.5	74.3	95.8	3	- 5	0	14361	9.5	73.8	00.8	3	- 3	- 2
14242	9.1	86.9	94.5	3	- 2	+ 4	14302	8.8	75.9	98.2	2	+ 2	+ 3	14362	9.4	80.8	95.8	4	- 8	+ 6
14243	8.3	79.3	98.2	2	+ 4	0	14303	8.6	85.2	94.2	3	0	0	14363	7.6	76.2	95.8	4	+ 5	+ 4
14244	9.1	79.8	01.2	3	- 9	- 2	14304†	6.2	74.8	01.1	3	+ 4	+ 2	14364	8.9	75.1	96.1	3	+ 6	0
14245	9.4	93.3	01.2	3	+ 5	+ 1	14305	8.9	77.1	01.1	3	- 1	- 1	14365	9.0	74.3	96.1	3	+ 2	- 4
14246	9.4	81.9	98.2	2	- 3	0	14306	9.4	77.9	95.8	3	- 1	+ 1	14366†	9.1	89.8	98.0	5	- 12	- 2
14247	8.9	78.8	01.2	2	- 2	- 1	14307†	7.1	83.8	00.4	4	+ 6	+ 2	14367†	9.0	73.8	00.8	3	- 16	+ 6
14248†	9.4	81.9	98.2	2	- 25	+ 1	14308	8.7	74.3	94.2	3	+ 4	- 2	14368	9.0	76.0	96.1	3	0	+ 2
14249	9.4	81.9	98.2	2	+ 1	0	14309	8.7	75.7	98.2	2	+ 3	+ 2	14369	9.0	80.1	96.1	3	+ 3	0
14250†	8.6	76.1	01.0	4	+ 78	- 1	14310	8.7	74.8	93.4	2	- 4	+ 2	14370†	8.7	76.4	96.1	3	+ 2	+ 1
14251	9.0	77.1	01.7	2	- 4	+ 1	14311†	9.0	74.4	01.7	2	- 4	- 16	14371	9.4	81.9	96.1	3	- 9	+ 2
14252	9.0	74.6	94.5	3	- 1	- 2	14312	9.4	75.6	01.1	3	- 3	- 2	14372	9.3	81.9	96.1	3	- 2	- 1
14253	8.8	85.4	94.5	3	- 5	+ 3	14313†	9.0	85.9	98.2	2	+ 12	- 2	14373	9.4	76.9	95.5	3	- 1	0
14254	9.0	76.9	94.5	3	+ 9	+ 1	14314	9.5	73.8	01.1	3	- 4	+ 3	14374	8.9	74.5	96.1	3	- 2	+ 2
14255	7.7	73.5	94.5	3	- 2	- 3	14315†	9.5	73.8	01.1	3	+ 7	+ 2	14375	9.5	73.4	94.8	1	+ 2	0
14256	7.9	75.2	01.9	3	+ 3	- 2	14316	9.0	75.4	01.1	3	+ 4	+ 1	14376†	8.4	74.4	00.8	3	+ 16	- 6
14257	8.8	78.5	01.7	2	+ 7	- 4	14317	8.9	75.1	93.4	2	+ 3	0	14377	8.6	78.0	98.8	3	+ 1	+ 1
14258	9.0	79.1	97.4	3	+ 3	- 4	14318	9.3	78.2	94.8	2	+ 2	- 3	14378	9.0	85.2	96.8	2	- 2	+ 1
14259	9.5	76.0	97.4	3	- 7	0	14319	9.0	73.8	99.6	4	+ 2	- 3	14379	8.2	74.4	98.9	3	- 1	0
14260	9.0	79.0	95.9	2	- 5	+ 2	14320	8.3	74.8	94.8	2	+ 1	0	14380	8.1	84.9	01.7	2	0	0
14261	7.0	73.5	99.8	4	+ 3	- 2	14321	9.4	75.5	99.0	3	- 6	+ 2	14381	8.3	76.0	97.2	3	+ 4	+ 1
14262	9.2	79.9	95.9	2	- 6	0	14322	9.5	73.8	01.4	3	- 3	+ 3	14382	8.5	75.7	96.8	2	+ 2	+ 2
14263†	9.0	75.1	01.9	3	- 4	- 14	14323	9.0	75.6	00.0	4	- 3	+ 2	14383	8.9	92.8	96.8	2	- 8	+ 7
14264	8.8	82.9	94.8	2	- 2	+ 6	14324	9.5	73.2	94.1	3	+ 1	+ 1	14384	9.1	74.3	00.8	3	- 1	0
14265	8.8	74.0	99.8	4	+ 4	0	14325	8.3	75.1	95.4	3	+ 1	- 2	14385	9.0	73.2	98.9	3	+ 2	- 1
14266	9.5	84.3	99.9	4	+ 2	+ 1	14326	9.0	74.8	95.3	2	- 5	- 2	14386	8.1	78.1	96.3	2	+ 6	- 1
14267	7.5	75.3	01.9	3	+ 5	- 3	14327	8.3	73.1	95.3	2	0	+ 2	14387	8.7	78.5	98.9	3	+ 1	+ 1
14268	8.5	74.4	95.9	2	+ 1	- 2	14328	8.7	85.9	93.9	3	+ 2	- 1	14388	8.9	75.5	98.6	4	0	- 1
14269	9.0	78.2	94.8	2	- 4	- 1	14329†	9.0	76.6	95.3	2	- 10	0	14389	8.7	75.2	96.4	2	+ 6	- 4
14270	9.5	81.9	01.1	3	- 7	- 2	14330	9.0	76.6	97.1	3	+ 3	0	14390	9.0	85.5	96.8	2	0	0
14271	9.1	78.8	95.8	3	- 4	+ 1	14331	9.5	81.9	95.3	2	- 2	+ 2	14391	9.5	81.9	96.3	2	- 4	+ 2
14272†	9.0	79.1	00.7	1	+ 4	+ 1	14332	8.0	85.9	01.7	2	+ 4	- 2	14392	9.4	74.6	98.0	6	0	+ 5
14273	8.7	75.6	94.8	2	+ 5	+ 2	14333†	7.5	75.4	93.9	3	+ 10	- 4	14393	9.4	76.1	96.1	3	- 4	0
14274	7.5	80.1	94.8	2	+ 2	+ 2	14334	8.9	74.1	98.2	2	+ 5	- 1	14394†	6.5	76.5	96.1	3	+ 10	- 4
14275	9.1	84.1	94.8	2	- 8	+ 6	14335†	9.5	73.8	95.4	2	- 3	+ 20.5	14395	7.8	75.3	96.5	3	+ 3	- 2
14276	7.0	84.9	94.8	2	+ 8	- 6	14336	8.3	75.3	95.3	2	+ 2	+ 2	14396	9.0	73.8	97.9	4	+ 2	- 1
14277†	9.4	82.8	01.9	3	- 10	- 2	14337	8.0	84.9	01.7	2	- 7	0	14397	8.4	74.0	99.6	4	+ 6	- 1
14278	9.3	81.9	98.2	2	- 3	+ 1	14338	9.3	79.9	01.7	2	- 4	+ 4	14398	9.4	76.2	99.6	4	- 6	+ 2
14279	8.5	74.3	95.9	2	+ 9	- 2	14339	9.5	72.9	93.9	2	- 6	- 2	14399	9.0	80.8	95.6	5	- 5	- 2
14280	9.5	74.5	99.9	4	+ 3	+ 2	14340	8.7	77.2	98.2	2	+ 4	- 9	14400	9.5	74.2	95.9	3	+ 4	- 6



Cambridge.			Oxford.				Cambridge.			Oxford.				Cambridge.			Oxford.			
No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .	No.	Mag.	Epoch.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
14401	9.0	77.7	97.9	4	- 4	+ 1	14416	8.7	75.2	96.3	2	+ 6	+ 3	14431	8.9	75.4	98.4	4	- 4	- 2
14402†	9.0	76.1	95.9	3	+ 18	- 1	14417	8.0	74.9	98.6	4	0	+ 2	14432†	8.3	74.3	98.4	4	+ 7	- 4
14403	7.5	73.8	99.2	3	- 5	+ 1	14418	9.0	83.8	99.2	3	- 4	+ 4	14433	9.3	76.0	96.8	3	+ 1	+ 3
14404	9.3	74.4	98.9	3	- 1	+ 1	14419	8.1	78.3	96.3	2	+ 5	+ 2	14434†	6.7	76.2	96.8	3	+ 14	0
14405	9.2	75.2	99.2	2	- 4	+ 2	14420	8.9	74.4	99.2	3	+ 5	0	14435	8.7	84.9	96.8	3	+ 3	- 1
14406	7.8	75.1	99.2	2	- 1	0	14421	9.5	81.9	96.3	2	- 7	+ 3	14436	6.8	79.0	96.5	3	+ 7	- 3
14407	7.0	79.5	96.3	2	+ 4	- 1	14422	9.3	81.9	96.1	3	0	0	14437	8.3	75.2	95.8	2	- 2	- 2
14408	9.5	77.9	96.3	2	+ 2	0	14423	9.5	84.9	97.5	3	- 7	0	14438	9.0	75.8	96.5	3	- 3	+ 1
14409	9.5	79.9	96.3	2	- 8	- 5	14424†	8.4	75.7	96.3	2	- 2	+ 2	14439	9.1	75.6	95.3	2	- 5	+ 3
14410	8.6	76.2	96.5	3	+ 3	+ 1	14425	9.5	77.2	96.8	2	+ 6	+ 4	14440	9.5	86.1	96.4	5	+ 2	+ 2
14411	9.3	81.9	96.5	3	- 6	+ 1	14426	9.0	74.2	96.8	2	+ 2	0	14441	7.0	78.0	96.5	3	+ 7	- 2
14412	9.3	73.8	99.2	2	+ 1	+ 2	14427	9.0	86.4	96.3	2	- 4	- 2							
14413†	6.0	74.0	96.8	2	+ 72	- 89	14428	9.1	74.9	96.8	2	- 4	- 2							
14414	9.3	74.2	96.8	2	- 2	- 1	14429	9.3	75.9	96.8	3	- 6	0							
14415†	9.5	81.9	96.8	2	- 12	0	14430	9.5	81.9	96.3	4	- 4	- 1							

## NOTES.

THE following notes to the stars marked with a † are the result of an extensive scrutiny by Mr Bellamy.

Abbreviations used are—

Cambridge } = Cambridge Catalogue of 14,441 stars, epoch 1875.0, under the scheme of the  
Camb. or C. } *Astron. Gesellschaft.*

Revision = A M.S. list of positions of certain stars in the preceding as revised by Miss Walker, kindly communicated in 1906 by the Director of the Cambridge Observatory (*See List E below*).

Boss' P.G.C. = Preliminary General Catalogue of 6188 stars for 1900.0 by L. Boss (1910).

$\beta$ .G.C. = General Catalogue of Double Stars by S. W. Burnham, Part I., 1906.

L.P.M. = Five papers on Large Proper Motions detected at Oxford; *M.N.*, lxxix. pp. 57 and 491, lxxi. pp. 45 and 582; lxxii. p. 65.

Cinc. = Publications of the Cincinnati Observatory, vols. xii., xiii., xiv.

Paris = Paris Catalogue of Meridian Places for 1875.0.

The symbols  $\Sigma$ ,  $O\Sigma$ , and Lal. for W. Struve, Otto Struve, and Lalande, scarcely need explanation.

A large number of the notes fall under three or four headings, and are most conveniently given by simply specifying the Cambridge numbers of the stars, as collected in the following Lists.

## LIST A.

Stars with sensible differences between Oxford and Cambridge in one or both co-ordinates, *probably* due to proper motion. It is to be understood that there is a sufficient interval between the dates of the Oxford plates to shew the motion, and that it agrees satisfactorily with that indicated by the difference between Oxford and Cambridge. This is true for the stars with Cambridge Nos. as below:—

76	222	1925	3017	4462	5202	6194	6729	7463	8797
78	752	1967	3263	4619	5235	6225	6744	7527	9441
80	966	2246	3265	4685	5279	6460	6806	7590	10668
84	1012	2254	3536	4744	5341	6468	6815	7603	11966
95	1034	2257	3593	4751	5442	6474	6816	7742	12781
104	1168	2519	3914	4756	5478	6484	6953	7918	12987
108	1200	2609	3921	4857	5489	6518	6968	8321	13481
120	1401	2664	4051	4948	5843	6596	6981	8429	14237
141	1403	2718	4222	5180	5962	6633	7181	8435	14263
173	1434	2803	4437	5181	6138	6643	7419	8758	14333
213	1804	2954	4443						



## LIST B.

When the interval between the separate Oxford plates on which the star occurs is small, confirmation as in List A is not possible. In these cases given below, the difference between Oxford and Cambridge *may* be due to proper motion :—

12	853	1558	2480	4580	5867	7397	9607	12220	12751
28	855	1601	2686	4811	5876	7410	9638	12226	12997
174	870	1617	2695	4913	5890	7479	10080	12250	13031
226	879	1625	2732	5031	5916	7517	10236	12289	13039
328	919	1626	2761	5303	5932	7586	10311	12293	13120
342	944	1632	2828	5335	5983	7688	10444	12300	13269
426	981	1707	2883	5367	6050	7722	10968	12312	13331
455	1031	1736	2897	5404	6186	7731	11046	12352	13695
478	1035	1805	2964	5460	6200	7810	11093	12370	13722
488	1049	1821	3236	5474	6252	7818	11152	12372	13792
546	1116	1828	3325	5491	6332	7846	11372	12387	13836
553	1190	1868	3408	5557	6500	7870	11402	12425	13860
570	1192	1876	3467	5573	6505	8006	11593	12486	13967
588	1201	1878	3651	5574	6509	8021	11623	12502	13993
599	1250	1884	3662	5633	6532	8080	11629	12515	14086
600	1275	1894	3688	5639	6545	8118	11718	12560	14154
612	1295	1907	3722	5655	6685	8201	11808	12574	14180
621	1305	1918	3745	5694	6764	8261	11941	12608	14198
668	1313	1924	3746	5709	6840	8365	11984	12633	14203
749	1325	2010	3757	5728	6924	8404	12048	12639	14208
752	1393	2027	4144	5756	6943	8618	12057	12669	14288
753	1394	2036	4167	5757	6948	8895	12099	12670	14311
787	1417	2092	4363	5765	6975	9131	12161	12671	14313
788	1523	2207	4400	5768	7068	9153	12175	12676	14402
818	1531	2360	4504	5801	7088	9568	12191	12719	14415
820	1535	2433	4576	5810	7151	9582	12194	12738	14434

## LIST C.

Thirdly, the interval between the plates may be large enough to shew the proper motion on the hypothesis that the difference between Oxford and Cambridge is due to P.M., but the evidence of the Oxford plates is against this hypothesis. Such cases are these :—

10	1065	2507	3729	4775	5988	6625	7589	8522	12831
73	1088	2510	3776	4797	5994	6687	7619	8537	12849
75	1091	2532	3800	4912	6024	6715	7775	8601	12905
137	1366	2554	3802	5085	6161	6786	7863	8700	13095
217	1432	2556	3884	5206	6178	6794	7941	8804	13201
218	1554	2589	3907	5286	6207	6861	7977	8976	13241
231	1631	2685	3938	5310	6230	6866	8019	9757	13311
290	1638	2785	4098	5337	6267	6918	8043	10360	13391
314	1759	2829	4120	5439	6370	6966	8053	10384	13455
373	2065	2837	4201	5466	6372	6978	8065	10418	13456
410	2075	2929	4243	5556	6399	7187	8095	10559	13614
571	2117	2965	4292	5714	6438	7209	8101	11300	13653
598	2163	2973	4334	5771	6465	7258	8153	11370	13691
645	2235	2990	4350	5865	6491	7275	8290	11462	13848
771	2293	3096	4358	5892	6502	7324	8411	11595	14095
815	2308	3159	4484	5899	6504	7390	8437	12124	14156
905	2394	3207	4492	5922	6511	7477	8456	12375	14277
1030	2434	3354	4629	5965	6589	7514	8465	12702	14287
1036	2491	3529	4735	5984	6608	7550	8515	12772	



## LIST D.

*Miscellaneous.*Camb.  
No.

3. Boss' P.G.C. 6 (Brad. 3212) gives P.Ms.  $+^s.0288$  and  $-^m.176$ .
9. Two observations in Cambridge; two observations in the Revision in 1896.8 give  $\Delta$  R.A.  $= +0^s.36$ ,  $\Delta\delta = -1^m.1$ .
19. Fundamental star,  $\alpha$  Andromedæ. Boss' P.G.C. gives P.Ms.  $+^s.0106$  and  $-^m.161$ .
25. A comparison of two plates, centre  $+26^\circ$ , R.A.  $0^h 8^m$ , epochs 1895.7 and 1907.8, gives  $\Delta\xi = -5$ ,  $\Delta\eta = -5$ ; total P.M.  $17^m.8$  a century (L.P.M. 2).
37. Küstner gives P.Ms.  $+^s.0154$  and  $+^m.024$ ; also in Cinc. xii. 13, xiii. 13 (Lal. 34).
- 41, 42. These two stars form a wide pair, B.D.  $+29^\circ 15$ ; not in  $\beta$ .G.C. C 41 is Oxford  $+29^\circ 158$  and  $+30^\circ 423$ ; C 42 is Oxford  $+29^\circ 157$  and  $+30^\circ 424$ .
47. A comparison of two plates, centre  $+26^\circ$ , R.A.  $0^h 8^m$ , epochs 1895.7 to 1907.8, gives  $\Delta\xi = +10$  and  $\Delta\eta = -1$ ; total P.M.  $25^m.1$  a century (L.P.M. 2).
58. Single observation in Cambridge; three observations in the Revision in 1898.6 give  $\Delta$  R.A.  $= -0^s.68$ ,  $\Delta\delta = +0^m.8$ .
82. Single observation in Cambridge; three observations in the Revision in 1899.2 give  $\Delta$  R.A.  $= -0^s.70$ ,  $\Delta\delta = +1^m.5$ .
- 85, 86. These two stars form a wide pair; C 85 is B.D.  $+27^\circ 26$ ; not in  $\beta$ .G.C. In Oxford  $+28^\circ 464$ ,  $465$ ; and  $+29^\circ 320$ ,  $321$ . Both single observations in Cambridge.
87. Single observation in Cambridge; one observation in the Revision in 1898.9 gives  $\Delta$  R.A.  $= -0^s.87$ ,  $\Delta\delta = +0^m.4$ .
93. A comparison of two plates, centre  $+26^\circ$ , R.A.  $0^h 8^m$ , epochs 1895.7 to 1907.8, gives  $\Delta\xi = +7$  and  $\Delta\eta = -2$ ; total P.M.  $18^m.0$  a century (L.P.M. 2).
122. Double.  $\beta$ .G.C. 128 ( $\Sigma$  24), distance  $5^m.20$ ; mags. 7.2 and 8.0. In Oxford  $+25^\circ 709$ ,  $708$ ; single in  $+26^\circ 728$ . The Cambridge place is for the *n.f.* component.
124. Double.  $\beta$ .G.C. 134; distance  $\pm 4''$ , mags. 9-10, 10-11. Cambridge 124 is Oxford  $+25^\circ 614$ , and  $+26^\circ 658$ ; the other component is Oxford  $+25^\circ 613$  and  $+26^\circ 657$ ; both stars are in Berlin (B.) A.G.C.
125. Single observation in Cambridge; four observations in the Revision in 1899.4 give  $\Delta$  R.A.  $= -0^s.82$ ,  $\Delta\delta = -0^m.3$ .
138. The Cambridge place is for the *s.p.* of two widely separated stars, and is Oxford  $+28^\circ 795$  and  $+29^\circ 349$ ; the other is Oxford  $+28^\circ 812$  and  $+29^\circ 356$ .
169. This is the Variable star, T Andromedæ.
178. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= -0^s.28$ ,  $\Delta\delta = +4^m.5$ .
189. The *n.p.* of two stars was observed at Cambridge; the residuals are given for Oxford  $+26^\circ 945$ , and  $+27^\circ 460$ ; the other star, *s.f.*, is Oxford  $+26^\circ 925$  and  $+27^\circ 461$ .
195. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= -0^s.69$ ,  $\Delta\delta = -2^m.1$ .
240. Single observation in Cambridge; three observations in the Revision in 1899.2, of the *s.p.* of two stars, give  $\Delta$  R.A.  $= -0^s.38$ ,  $\Delta\delta = +0^m.3$ .
267. Boss' P.G.C. 89 (Brad. 35) gives P.Ms.  $+^s.0030$  and  $-^m.053$ .
283. Single observation in Cambridge; three observations in the Revision in 1898.9 give  $\Delta$  R.A.  $= -0^s.42$ ,  $\Delta\delta = +1^m.5$ .
301. Cinc. xiv. 33 gives P.Ms.  $+^s.0142$  and  $+^m.05$ ; also in Paris 638 (Lal. 758).
305. Single observation in Cambridge; three observations in the Revision in 1898.6 give  $\Delta$  R.A.  $= -0^s.50$ ,  $\Delta\delta = -0^m.3$ .
306. Boss' P.G.C. 106 gives P.Ms.  $+^s.0010$  and  $+^m.006$ . It is double,  $\beta$ .G.C. 279 ( $O\Sigma$  14), distance  $8^m.48$ , mags. 6.7 and 10.7; in Oxford  $+27^\circ 763$  single;  $+28^\circ 977$ ,  $978$ .
309. A close double; the star observed at Cambridge is the *s.p.* star, single in Oxford  $+29^\circ 1047$ ; and  $+30^\circ 841$ . The pair form the double in  $\beta$ .G.C. 280; distance  $4^m.38$ , mags. 9.4 and 10. There is a star on Oxford plates *n.f.*, distance  $24''$ .
318. Observed as one mass at Cambridge;  $\beta$ .G.C. 289, distance  $\pm 1\frac{1}{2}''$ , mags. 10, 11. In Oxford  $+25^\circ 1959$ ,  $1958$ ;  $+26^\circ 1578$ ,  $1577$ .
329. Cambridge has the note "very close double?" Only one star measured at Oxford,  $+25^\circ 1999$  and  $+26^\circ 1593$ . In  $\beta$ .G.C. 301, without any distance or angle.
344. A double star; the Cambridge place is for the *s.p.* star.  $\beta$ .G.C. 322 ( $\Sigma$  42), distance  $5^m.32$ , mags. 7.9 and 8.7. In Oxford  $+30^\circ 834$ ,  $835$ ; and  $+29^\circ 1039$  as one star. Cinc. xiii. 59 (xii. 43) gives P.Ms.  $+^s.0116$  and  $-^m.412$ .



LIST D.—*continued*.

 Camb.  
No.

358. Single observation in Cambridge; three observations in the Revision in 1898.6 give  $\Delta$  R.A. =  $-0^{\circ}.40$ ,  $\Delta\delta = +1''.2$ .
370. Fundamental star,  $\epsilon$  Andromedæ. Boss' P.G.C. 130 gives P.Ms.  $-0^{\circ}.173$  and  $-''248$ ; also in Cinc. xii. 46. Two plates, centre  $+28^{\circ}$ , R.A.  $0^h 36^m$ , epochs 1894.9 and 1907.1, give  $\Delta\xi = -0.006$  and  $\Delta\eta = -0.007$ ; total P.M.  $22''.8$  a century (L.P.M. 1).
372. Paris 790 has P.Ms.  $-0^{\circ}.0056$  and  $+''151$ ; also Cinc. xiii. 65 (Lal. 980).
378. Fundamental star,  $\delta$  Andromedæ. Boss' P.G.C. 132 gives P.Ms.  $-0^{\circ}.0330$  and  $-''086$ .
379. Rejected at Cambridge. In the Revision in 1906 the observations show it to be an erroneous observation of C 380. There is no star on the Oxford plates that agrees with the C 379.
386. Paris 827 (Lal. 1032) gives P.Ms.  $+0^{\circ}.0230$  and  $.000$ ; also in Cinc. xii. 49 and xiii. 68.
419. Rejected at Cambridge; an erroneous observation of a star given in the Revision as 420a. See List E.
436. Variable? Single observation in Cambridge, but in the Revision in 1897, Dec. 15, no star was found. It is easily visible on three Oxford plates taken in 1894.882, 1895.868, 1907.060, and the mean residuals are  $\Delta\xi = -16$  and  $\Delta\eta = -2$ .
445. Single observation in Cambridge; the revised position given in Cambridge, Appendix I, p. 299, gives  $\Delta$  R.A. =  $-0^{\circ}.20$  and  $\Delta\delta = +5''.4$ .
480. Single observation in Cambridge; five observations in the Revision in 1899.3 give  $\Delta$  R.A. =  $-0^{\circ}.34$  and  $\Delta\delta = +1''.7$ .
486. Cinc. xii. 68 gives P.Ms.  $+0^{\circ}.022$  and  $-''06$ ; also Cinc. xiii. 95 and Paris 1030 (Lal. 1332).
487. Boss' P.G.C. 178 (Brad. 88) gives P.Ms.  $+0^{\circ}.0069$  and  $-''007$ . Double:  $\beta$ .G.C. 439 ( $\Sigma$  61).
506. Rejected at Cambridge; Dec. 5' too small. See List E.
529. Single observation in Cambridge; four observations in the Revision in 1898.9 give  $\Delta$  R.A. =  $-0^{\circ}.55$  and  $\Delta\delta = +1''.5$ .
551. Boss' P.G.C. 198 (Brad. 100),  $k$  Piscium, gives P.Ms.  $-0^{\circ}.0001$  and  $+''006$ .
568. Rejected at Cambridge; an erroneous observation for 464.
569. Boss' P.G.C. 209 (Brad. 105),  $h$  Piscium, gives P.Ms.  $+0^{\circ}.0009$  and  $-''012$ .
574. Cinc. xiii. 125 gives P.Ms.  $+0^{\circ}.0149$  and  $-''102$ ; also in Cinc. xii. 79 and Paris 1230 (Lal. 1635).
577. Single observation in Cambridge; three observations in the Revision in 1898.6 give  $\Delta$  R.A. =  $-0^{\circ}.37$  and  $\Delta\delta = +3''.4$ . Double with 578.
578. Single observation in Cambridge; three observations in the Revision in 1898.6 give  $\Delta$  R.A. =  $-0^{\circ}.47$  and  $\Delta\delta = +0''.9$ . This star and 577 form the double star  $\beta$ .G.C. 504 ( $\Sigma$  77), distance  $10''.07$ , mags. 9.1 and 9.1. In Oxford  $+26^{\circ} 2259, 2258$ ;  $+26^{\circ} 2579, 2578$ ; and  $+27^{\circ} 1282, 1281$ .
603. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A. =  $-0^{\circ}.58$  and  $\Delta\delta = -0''.1$ .
631. Cinc. xiii. 142 gives P.Ms.  $+0^{\circ}.0101$  and  $-''119$ .
638. There are two stars forming the double  $\beta$ .G.C. 559, distance  $\pm 15''$ , mags. 10 and 10. Cambridge place is for the star  $n.f$ . In Oxford  $+25^{\circ} 3936, 3935$ ;  $+26^{\circ} 2488, 2487$ ; and  $+26^{\circ} 2791, 2790$ .
675. Cinc. xiv. 78 gives P.M.  $0^{\circ}.0000$  and  $-''125$ .
688. Fundamental star,  $\tau$  Piscium. Boss' P.G.C. 271 gives P.Ms.  $+0^{\circ}.0055$  and  $-''038$ .
- 709, 711. These stars form a wide pair; not in  $\beta$ .G.C. The  $n.p.$  component is C 709.
732. Two plates, centre  $+26^{\circ}$ , R.A.  $1^h 12^m$ , epochs 1897.8 and 1907.8, give  $\Delta\xi = +9$  and  $\Delta\eta = +1$ ; total P.M.  $27''.0$  a century (L.P.M. 2).
735. Two plates, centre  $+25^{\circ}$ , R.A.  $1^h 16^m$ , epochs 1893.0 and 1908.9, give  $\Delta\xi = +7$  and  $\Delta\eta = -2$ ; total P.M.  $13''.8$  a century (L.P.M. 5).
758. Fundamental star,  $v$  Piscium. Boss' P.G.C. 300 gives P.Ms.  $+0^{\circ}.0017$  and  $-''012$ .
762. Boss' P.G.C. 303 (Brad. 176),  $l$  Piscium, gives P.Ms.  $+0^{\circ}.0018$  and  $-''076$ .
798. Single observation in Cambridge; three observations in the Revision in 1898.6 give  $\Delta$  R.A. =  $-0^{\circ}.58$  and  $\Delta\delta = +0''.9$ .
799. Two plates, centre  $+25^{\circ}$ , R.A.  $1^h 24^m$ , epochs 1893.8 and 1908.9, give  $\Delta\xi = -7$  and  $\Delta\eta = -6$ ; total P.M.  $18''.4$  a century (L.P.M. 5).
800. Paris 1754 (Lal. 2551) gives P.Ms.  $+0^{\circ}.029$  and  $-''206$ , also Cinc. xii. 108 and xiii. 199.
849. Paris 1868 (Lal. 2747) gives P.Ms.  $+0^{\circ}.0187$  and  $-0''.90$ ; also Cinc. xii. 115 and xiii. 209.
867. Paris 1905 (Lal. 2802) gives P.Ms.  $+0^{\circ}.0144$  and  $-''070$ ; also Cinc. xiii. 215.
873. Single observation in Cambridge; three observations in the Revision in 1900.0 give  $\Delta$  R.A. =  $-0^{\circ}.92$  and  $\Delta\delta = +0''.7$ . Apparently the R.A. was  $1^s$  too large.
875. Rejected at Cambridge; Dec. 10' too small. See list E.



LIST D.—*continued*.Camb.  
No.

877. Double. According to a footnote in Cambridge the "south preceding" star is the one observed.

Both stars have been measured on three Oxford plates as follow:—

Centre.	Plate.	Exposed.	No.	Diam.	Measured.	No.	Diam.	Measured.
<sup>h</sup> <sup>m</sup>					<sup>x</sup> <sup>y</sup>			<sup>x</sup> <sup>y</sup>
+28 1 30	557	1894 Nov. 16	3310	20	10.465	25.857	3309	10.457 25.845
+29 1 25	1850	1901 Oct. 18	3290	23	24.078	13.480	3289	24.067 13.465
+29 1 34	1851	1901 Oct. 18	3648	38	0.396	13.564	3647	0.387 13.552

From this it appears that, either the fainter star was only observed at Cambridge, or that the footnote should read "north preceding." Equivalent mean mag.: 9.4.

880. Rejected at Cambridge; R.A. 1<sup>m</sup> too large. See List E.895. Single observation in Cambridge; five observations in the Revision in 1899.4 give  $\Delta$  R.A. =  $-0^{\circ}.36$  and  $\Delta\delta = +0''.1$ .904. Paris 2015 (Lal. 2962) gives P.Ms.  $+0^{\circ}.0246$  and  $''000$ ; also in Cinc. xii. 123 and xiii. 229.906. Cinc. xiv. 114 (Lal. 2975) gives P.Ms.  $+0^{\circ}.36$  and  $''25$ .918. Paris 2046 (Lal. 3022) gives P.Ms.  $+0^{\circ}.358$  and  $''145$ ; also in Cinc. xii. 127 and xiii. 234.931. Boss' P.G.C. 373 gives P.Ms.  $+0^{\circ}.0094$  and  $''043$ . Two plates, centre  $+25^{\circ}$ , R.A.  $1^h 32^m$ , epochs 1893.0 and 1909.1, give  $\Delta\xi = +8$  and  $\Delta\eta = 0$ : total P.M.  $14''.9$  a century (L.P.M. 5). The star has a faint companion of 10.6 mag. and is  $\beta$ .G.C. 870 ( $\Sigma$  145). The faint star is not measured on plate 2725,  $+25^{\circ}$ , R.A.  $1^h 32^m$ ; both are given for plate 880, R.A.  $1^h 40^m$ ,  $+25^{\circ}$  5684 and 5685; both are given in  $+26^{\circ}$ , R.A.  $1^h 36^m$ , plate 889,  $+26^{\circ}$  4014 and 4015.932. Boss' P.G.C. 375 (Brad. 225) gives P.Ms.  $-0^{\circ}.0010$  and  $''003$ .993. Two plates, centre  $+25^{\circ}$ , R.A.  $1^h 48^m$ , epochs 1893.0 and 1909.1, give  $\Delta\xi = -5$  and  $\Delta\eta = 0$ : total P.M.  $9''.3$  a century (L.P.M. 5).1022. Fundamental star,  $\alpha$  Trianguli; Boss' P.G.C. 421 gives P.Ms.  $+0^{\circ}.0013$  and  $''232$ ; also Cinc. xii. 139 (Lal. 3420).1027. Rejected at Cambridge; Dec.  $1'$  too small. See List E.1028. Two plates, centre  $+25^{\circ}$ ,  $1^h 48^m$ , epochs 1893.0 and 1909.1, give  $\Delta\xi = +7$  and  $\Delta\eta = +1$ : total P.M.  $13''.2$  a century (L.P.M. 5).1062. Single observation in Cambridge; one observation in 1899.1 in the Revision gives  $\Delta$  R.A. =  $-0^{\circ}.60$  and  $\Delta\delta = +0''.8$ .1068. Rejected at Cambridge; Dec.  $1^{\circ}$  too small. In the Revision in 1906.2 a new place is given and called 1068a. This star is Leiden 733, and that place has been used at Oxford.1074. Two plates, centres  $+25^{\circ}$ , R.A.  $1^h 48^m$ , epochs 1893.0 and 1909.1, give  $\Delta\xi = -5$  and  $\Delta\eta = -5$ ; total P.M.  $13''.2$  (L.P.M. 5).1086. Single observation in Cambridge; four observations in 1899.0 in the Revision give  $\Delta$  R.A. =  $+0^{\circ}.13$  and  $\Delta\delta = -3''.2$ .1096. Rejected at Cambridge; Dec.  $5'$  too small. See List E.1098. Paris 2496 (Lal. 3681) gives P.Ms.  $+0^{\circ}.0162$  and  $''034$ .1114. Boss' P.G.C. 470 (Brad. 278) gives P.Ms.  $+0^{\circ}.0102$  and  $''016$ ; also Paris 2567 (Lal. 3781) and Cinc. xiv. 139.1146. This star is double, but not so noted in Cambridge, where apparently the place is for the mean mass, nor is it given in  $\beta$ .G.C. In Oxford  $+27^{\circ}$  the two stars are 4884,  $x=9^h 42^m 9.2^s$ ,  $y=22^{\circ} 9' 82''$ , and 4883,  $x=9^h 42^m 7.1^s$ ,  $y=22^{\circ} 9' 11''$ . In  $+28^{\circ}$  4423,  $x=3^h 7^m 54.4^s$ ,  $y=11^{\circ} 2' 12''$  and 4424,  $x=3^h 7^m 54.4^s$ ,  $y=11^{\circ} 1' 43''$ ; the mean mags. from these two plates are 10.3 and 10.5. If the assumption be made that the two stars were observed as one at Cambridge the greater part of these residuals will disappear.1152. Boss' P.G.C. 483 (Brad. 291) gives P.Ms.  $+0^{\circ}.0058$  and  $''037$ .1158. Paris 2675 (Lal. 3962) gives P.Ms.  $+0^{\circ}.0237$  and  $''195$  for this star; also Cinc. xii. 150, and xiii. 273.1166. Boss' P.G.C. 493 (Brad. 298) gives P.Ms.  $0^{\circ}.0000$  and  $''011$ .1170. Single observation in Cambridge; three observations in the Revision in 1898.6 give the  $\Delta$  R.A. =  $-0^{\circ}.34$  and  $\Delta\delta = -0''.2$ .1173. A double star,  $\beta$ .G.C. 1137 ( $\Sigma$  227) and  $\iota$  Trianguli; distance  $3''.68$ , mags. 5.0 and 6.4. The place in Cambridge is for the mean mass. Boss' P.G.C. 497 (Brad. 301, first star), the P.Ms. are given for the brighter star as  $-0^{\circ}.0048$  and  $''062$ . The Oxford Zones,  $+29^{\circ}$  5127 and  $+30^{\circ}$  3588, contain only the measures for the combined image.1181. Two plates, centre  $+25^{\circ}$ , R.A.  $2^h 4^m$ , epochs 1892.0 and 1908.9, give  $\Delta\xi = -4$  and  $\Delta\eta = -7$ : total P.M.  $14''.4$  a century (L.P.M. 5).1193. The R.A. in the Leiden Catalogue is  $0^{\circ}.32$  smaller; with this correction the residuals in  $\Delta\xi$  would become  $0^{\circ}.00$ .



## LIST D.—continued.

- Camb.  
 No.
- 1194 and 1195. These form a double star, not in  $\beta$ .G.C.; both were observed at Cambridge, and both were measured at Oxford on plate 1867, being  $+29^{\circ} 51'41''$  and  $51'42''$ ; but only measured as one star on plate 2070,  $+30^{\circ} 35'96''$ ; the shorter exposures show the two stars.
1205. Boss' P.G.C. 510 (Brad. 314) gives P.Ms.  $+^{\circ}01'36''$  and  $-^{\circ}06'00''$ ; also in Cinc. xiii. 282 (Lal. 4154).
1214. Single observation in Cambridge; three observations in the Revision in 1898.6 give  $\Delta$  R.A. =  $-0^{\circ}55'$  and  $\Delta\delta = -2''7$ .
1222. Paris 2843 (Lal. 4223) gives P.Ms.  $^{\circ}00'00''$  and  $-^{\circ}12'29''$ ; also Cinc. xiii. 289.
1229. Boss' P.G.C. 526 (Brad. 322), gives P.Ms.  $+^{\circ}00'09''$  and  $-^{\circ}00'02''$ .
1269. Küstner 29 gives P.Ms.  $-^{\circ}00'03''$  and  $+^{\circ}02'00''$ . Also Paris 2928 (Lal. 4357).
1285. Single observation in Cambridge; the star was observed in the Revision in 1898.9, together with the *s.f.* and brighter star called 1285a. The two stars are about  $35''$  apart, not in  $\beta$ .G.C.; both are measured on each Oxford plate.
1323. Boss' P.G.C. 559 (Brad. 342) and 12 Trianguli. The P.Ms. given are  $-^{\circ}00'14''$  and  $-^{\circ}08'7''$ .
1343. Boss' P.G.C. 565 gives P.Ms.  $+^{\circ}00'52''$  and  $-^{\circ}08'3''$ . The star has a faint companion of the 11th magnitude,  $12''$  distant, and is  $\beta$ .G.C. 1289 ( $\Sigma$  271). Both have been measured on the Oxford plates in Zone  $+25^{\circ}$ ; the numbers and magnitudes are:  $+25^{\circ} 73'19''$  (10.6),  $73'20''$  (5.7); and  $+25^{\circ} 76'63''$  (10.4),  $76'64''$  (6.0).
1360. Single observation in Cambridge; three observations in the Revision in 1898.6 give the  $\Delta$  R.A. =  $-0^{\circ}44'$  and  $\Delta\delta = +0''2$ .
1398. Single observation in Cambridge; in the Revision it was observed in 1898.6 and noted as "*n* of 2<sup>nd</sup>."  $\Delta$  R.A. =  $-0^{\circ}41'$  and  $\Delta\delta = -0''6$ . Both are in Oxford  $+28^{\circ} 53'20''$ ,  $53'19''$ ;  $+29^{\circ} 61'31''$ ,  $61'30''$ ; they are  $35''$  apart; not in  $\beta$ .G.C.
1406. Boss' P.G.C. 606 (Brad. 370 or 33 Arietis); the P.Ms. given are  $+^{\circ}00'53''$  and  $-^{\circ}03'4''$ .
1408. Single observation in Cambridge; four observations in the Appendix I. to that Catalogue give  $\Delta$  R.A.  $-0^{\circ}45'$  and  $\Delta\delta +3''1$ .
1420. Fundamental star; Boss' P.G.C. 620 (Brad. 380 and 35 Arietis) gives P.Ms.  $+^{\circ}00'03''$  and  $-^{\circ}01'13''$ .
1423. Paris 3359 (Lal. 5029), gives P.Ms.  $+^{\circ}01'17''$  and  $00'00''$ ; also in Cinc. xiv. 186.
1435. Single observation in Cambridge; three observations in the Revision in 1898.9 give  $\Delta$  R.A. =  $-0^{\circ}33'$ ,  $\Delta\delta = -1''0$ . There is another star near and has been observed at Cambridge as 1435a: it is *n.f.* of 1435; the R.A. is  $1^{\circ}20'$  later and Dec.  $56''5$  north. In Oxford  $+26^{\circ} 67'42''$ ,  $67'43''$ ;  $+27^{\circ} 57'39''$ ,  $57'40''$ ;  $+27^{\circ} 60'32''$ ,  $60'33''$ ; and  $+28^{\circ} 54'05''$ ,  $54'06''$ .
1436. Cinc. xiv. 188 gives P.Ms.  $+^{\circ}01'17''$  and  $-^{\circ}18'8''$ .
1452. Boss' P.G.C. 634 (Brad. 389 and 39 Arietis); the P.Ms. given are  $+^{\circ}01'15''$  and  $-^{\circ}12'5''$ ; also in Cinc. xiii. 337, Paris 3416 (Lal. 5141).
1454. Paris 3424 (Lal. 5158) gives P.Ms.  $+^{\circ}02'29''$  and  $-^{\circ}13'4''$ ; also Cinc. xii. 191 and xiii. 339.
1460. Single observation in Cambridge; three observations in the Appendix I., p. 299, give  $\Delta$  R.A. =  $+0^{\circ}08'$ ,  $\Delta\delta = +4''6$ .
1462. Single observation in Cambridge; three observations in the Revision in 1899.7 give  $\Delta$  R.A. =  $-0^{\circ}23'$ ,  $\Delta\delta = +0''2$ .
1463. Single observation in Cambridge; three observations for 1896.0 in the Appendix I., p. 299, give the  $\Delta$  R.A. =  $+0^{\circ}07'$  and  $\Delta\delta = +1''5$ .
1470. Fundamental star; Boss' P.G.C. 643 (Brad. 395 and 41 Arietis) has P.Ms.  $+^{\circ}00'50''$  and  $-^{\circ}11'3''$ .
1512. Paris 3564 (Lal. 5376) has P.Ms.  $+^{\circ}02'36''$  and  $-^{\circ}18'4''$ ; also in Cinc. xii. 198 and xiii. 350.
1513. Cambridge gives this a B.D.  $+25^{\circ} 46'3''$ : it should be  $46'2''$ ; the Oxford plates have two stars which agree with  $46'2''$  and  $46'3''$ .
1550. Boss' P.G.C. 686 (Brad. 424 and 49 Arietis) has P.Ms.  $-^{\circ}00'09''$  and  $-^{\circ}00'07''$ .
1553. Boss' P.G.C. 689 (Brad. 425 and 51 Arietis) has P.Ms.  $+^{\circ}01'79''$  and  $-^{\circ}16'8''$ ; also in Cinc. xii. 206 and xiii. 361.
1575. Paris 3715 (Lal. 5707) has P.Ms.  $+^{\circ}01'52''$  and  $-^{\circ}07'7''$ ; also Cinc. xiii. 368.
1581. Cinc. xiii. 373 (and Cinc. xii. 213) gives P.Ms.  $-^{\circ}01'42''$  and  $-^{\circ}86'4''$ ; not in Boss' P.G.C.
1587. Boss' P.G.C. 715 (Brad. 441 and 55 Arietis) has P.Ms.  $+^{\circ}00'22''$  and  $-^{\circ}02'5''$ .
1588. Paris 3772 (Lal. 5792) has P.Ms.  $+^{\circ}01'48''$  and  $-^{\circ}04'3''$ ; also Cinc. xiii. 375.
1599. Paris 3818 (Lal. 5882) has P.Ms.  $+^{\circ}00'44''$  and  $-^{\circ}13'9''$ ; also Cinc. xiii. 378.
1600. Boss' P.G.C. 719 (Brad. 447 and 56 Arietis) has P.Ms.  $+^{\circ}00'06''$  and  $-^{\circ}01'7''$ .
1608. Boss' P.G.C. 731 has P.Ms.  $-^{\circ}00'30''$  and  $-^{\circ}00'5''$ .
1633. Two plates, centre  $+25^{\circ}$ , R.A.  $3^h 16^m$ , epochs 1892.0 and 1909.0, give  $\Delta\xi = -5$  and  $\Delta\eta = -2$ : total P.M.  $9''5$  a century (L.P.M. 5).
1644. Paris 3949 (Lal. 6108) has P.Ms.  $+^{\circ}04'05''$  and . . . Four Oxford plates from 1894.9 to 1907.2 afford no indication of any P.M.
1646. Boss' P.G.C. 751 (Brad. 460 and 59 Arietis) has P.Ms.  $-^{\circ}00'16''$  and  $-^{\circ}07'8''$ .



LIST D.—*continued*.Camb.  
No.

1649. Boss' P.G.C. 755 has P.Ms.  $-''0002$  and  $-''027$ .
1651. Boss' P.G.C. 756 (Brad. 462 and 60 Arietis) has P.Ms.  $+''0015$  and  $-''093$ ; also Cine. xiii. 391.
1662. Boss' P.G.C. 768 (Brad. 467 and 62 Arietis) has P.Ms.  $+''0012$  and  $-''012$ .
1683. Two plates, centre  $+25^\circ$ , R.A.  $3^h 24^m$ , epochs 1892.0 and 1909.0, give  $\Delta\xi = -5$  and  $\Delta\eta = -1$ : total P.M.  $9''0$  a century (L.P.M. 5).
1742. This is the *s.p.* component of  $\Sigma$  415 or  $\beta$ .G.C. 1772, distance  $15''09$ , mags. 8.3 and 10.0. The two stars are Oxford  $+27^\circ 7785, 7786$ .
1758. Paris 4250 (Lal. 6638) has P.Ms.  $+''206$  and  $-''090$ ; also Cine. xii. 240 and xiii. 415. Two plates, centre  $+25^\circ$ , R.A.  $3^h 32^m$ , epochs 1892.0 and 1909.0, give  $\Delta\xi = +13$  and  $\Delta\eta = -15$ : total P.M.  $35''4$  a century (L.P.M. 5).
1780. Paris 4309 (Lal. 6701) has P.Ms.  $+''0152$  and  $-''077$ ; also Cine. xiii. 420.
1788. Boss' P.G.C. 836 (Brad. 500 and 11 Tauri) has P.Ms.  $+''0011$  and  $-''015$ .
1802. Cambridge has a note "close double?" It is B. D.  $+29^\circ 595$  and  $\beta$ .G.C. 1823. Both stars are in Oxford  $+30^\circ 6320$  and  $6319$ ; and  $+31^\circ 7203, 7202$ ; measured a one star in  $+29^\circ 9476$ . In the residuals the means of the measures of the two stars have been used.
1867. Boss' P.G.C. 883 has P.Ms.  $+''0029$  and  $-''108$ ; also Cine. xiv. 252. Double star,  $\beta$ .G.C. 1900 ( $O\Sigma$  65), distance  $0''74$ , mags. 6.5 and 6.8, only one star shown on the Oxford plates.
1886. Single observation at Cambridge. The Appendix, p. 299, gives another place depending upon three observations in 1895.8, but the residuals  $\Delta\xi$  and  $\Delta\eta$  depend upon the single observation.
1897. The Cambridge Revision notes this as *s.f.* of two, this is Oxford  $+26^\circ 9281$  and  $+27^\circ 8536$ ; the *n.p.* star is Oxford  $+26^\circ 9280$  and  $+27^\circ 8535$ , and is  $12^s$  earlier and  $35''$  north.
1927. Rejected at Cambridge; Dec.  $5'$  too small. See List E.
1934. Cambridge says "double star." The combined mass represents the place given. The Oxford  $\Delta\xi$  and  $\Delta\eta$  depend upon the mean of the separate measures of the two stars on the plates, the Oxford numbers are  $+27^\circ 8661, 8662, +27^\circ 8993, 8994$ , and  $+28^\circ 7911$  and  $7910$ . If the residuals be obtained for each star we get for the *n.f.* star  $\Delta\xi = -1$  and  $\Delta\eta = +9$ , and for the *s.p.* star  $\Delta\xi = -6$  and  $\Delta\eta = -10$ . The double star is  $\beta$ .G.C. 1958, distance  $6''25$ , mags. 9.2 and 9.5.
- 1937, 1938. The declinations of these two stars in the B. D. Catalogue should be transposed. The Cambridge numbers and relative positions agree with the Oxford measures,  $+25^\circ 11423, 11406$ , and  $+26^\circ 9475, 9465$ . The brighter star is *s.f.*, and the mean photographic magnitudes are 10.1 (1937) and 8.8 (1938).
1958. Cambridge says "double star," there is no note to say whether the mean was observed. The residuals  $\Delta\xi$  and  $\Delta\eta$  are given for the brighter of the two stars, distance  $18''$ , on the Oxford plates; the numbers are  $+27^\circ 9026, 9025$ ; and  $+28^\circ 7943, 7942$ ; but the brighter (*i.e.* 9026 and 7943) of these is also double, the component being of the 11th mag. and distance  $2''$ . The group is A.B.C. of  $\beta$ .G.C. 1990 ( $\Sigma$  481).
1991. Boss' P.G.C. 943 (Brad. 558 and 41 Tauri) gives P.Ms.  $+''0012$  and  $-''057$ .
- 1995a. This star (5.4 mag.) was omitted in its proper place in the Cambridge Catalogue, but is given in the Appendix, p. 299 (see List E.). Boss' P.G.C. 944 ( $\psi$  Tauri) gives P.Ms.  $-''0062$  and  $+''003$ .  $\Delta\xi = -2$  and  $\Delta\eta = -2$ , from two plates, epoch 1900.5.
2008. Boss' P.G.C. 955 (Brad. 563) gives P.Ms.  $-''0020$  and  $-''037$ .
2020. Probably variable, or photographically faint. B. D.  $+27^\circ 648$  gives it as 8.5 mag.; the Oxford measures, using the formula at the head of each plate, are:—
- |                           |                        |             |                     |
|---------------------------|------------------------|-------------|---------------------|
| Oxford $+27^\circ 9493$ ; | Exposed 1907, March 4, | plate 2536, | mag. 11.8           |
| $+27^\circ 9293$ ;        | 1907, Feb. 27,         | 2531,       | 10.7                |
| $+27^\circ \dots$         | 1894, Dec. 19,         | 581,        | 11.1 (in M.S. only) |
| $+28^\circ 8229$ ;        | 1899, Feb. 24,         | 1321,       | 11.5                |
| $+28^\circ 8418$ ;        | 1899, Feb. 24,         | 1322,       | 11.3                |
2023. Two plates, centre  $+27^\circ$ , R.A.  $4^h 4^m$ , epochs 1895.0 and 1907.2, give  $\Delta\xi = -4$  and  $\Delta\eta = -6$ : total P.M.  $17''7$  a century (L.P.M. 3).
2025. Paris 4906 (Lal. 7867) gives P.Ms.  $.0000$  and  $-''205$ ; also Cine. xii. 273 and xiii. 470.
2026. Single observation in Cambridge; three observations in the Revision in 1899.1 give  $\Delta$  R.A.  $= -0^s.41$  and  $\Delta\delta = +0''4$ .
2047. Boss' P.G.C. 1002 (Brad. 582 and  $\phi$  Tauri) gives P.Ms.  $-''0014$  and  $-''084$ .
2059. Boss' P.G.C. 1015 ( $\chi$  Tauri) gives P.Ms.  $+''0019$  and  $-''032$ . This, with C. 2060, forms the double star  $\beta$ .G.C. 2147 ( $\Sigma$  528). Oxford  $+25^\circ 11852, 11853$ ;  $+25^\circ 12141, 12142$ ; and  $+26^\circ 10316, 10317$ .
2078. Single observation in Cambridge; three observations in the Revision in 1898.7 give  $\Delta$  R.A.  $= -0^s.30$  and  $\Delta\delta = -0''6$ .



LIST D.—*continued*.

- Camb.  
 No.
- 2085, 2086. Cambridge Revision says "double, *n.f.*" The brighter and *s.p.* star is C. 2085 and Oxford  $+30^{\circ} 7477$  and  $31^{\circ} 8612$ , and the *n.f.* star is C. 2086 and Oxford  $+30^{\circ} 7478$  and  $+31^{\circ} 8613$ .
2111. Boss' P.G.C. 1068 gives P.Ms.  $+^{\circ}0004$  and  $-^{\circ}022$ .
2118. Two plates, centre  $+27^{\circ}$ , R.A.  $4^h 28^m$ , epochs 1899.1 and 1909.1, give  $\Delta\xi = +7$  and  $\Delta\eta = -2$ : total P.M.  $21''9$  a century (L.P.M. 3).
2129. Cambridge place is apparently the combined mass of two  $6.5$  mag. stars, distance  $3''17$ ; measured as one star on three Oxford plates;  $\beta$ .G.C. 2284 and  $\Sigma$  572.
2143. Boss' P.G.C. 1099 gives P.Ms.  $+^{\circ}0033$  and  $-^{\circ}042$ .
2150. Paris 5386 (Lal. 8840) gives P.Ms.  $+^{\circ}0051$  and  $-^{\circ}167$ ; also in Cinc. xii. 291 and xiii. 511.
2170. Two plates, centre  $+27^{\circ}$ , R.A.  $4^h 44^m$ , epochs 1895.0 and 1907.2, give  $\Delta\xi = +5$  and  $\Delta\eta = -4$ : total P.M.  $16''5$  a century (L.P.M. 3).
2217. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A.  $= -0^{\circ}67$  and  $\Delta\delta = -0''3$ .
2232. Paris 5662 (Lal. 9250) gives P.Ms.  $+^{\circ}0148$  and  $-^{\circ}131$ ; also in Cinc. xiii. 536.
2240. Single observation in Cambridge; three observations in the Revision in 1899.1 give  $\Delta$  R.A.  $= -0^{\circ}55$  and  $\Delta\delta = -2''6$ .
2241. Boss' P.G.C. 1177 (Brad. 685, *k* Tauri) gives P.Ms.  $+^{\circ}0022$  and  $-^{\circ}060$ .
2242. Two plates, centre  $+25^{\circ}$ , R.A.  $4^h 52^m$ , epochs 1895.1 and 1909.1, gives  $\Delta\xi = +1$  and  $\Delta\eta = +10$ : total P.M.  $21''6$  a century (L.P.M. 5).
- 2250, 2251. Double.  $\beta$ .G.C. 2452 ( $\Sigma$  623), distance  $20''40$ , mags. 6.8 and 8.3. Cambridge 2251 is Oxford  $+27^{\circ} 10346$  and  $+28^{\circ} 9415$ ; 2250 is Oxford  $+27^{\circ} 10345$  and  $+28^{\circ} 9409$ .
2297. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A.  $= -0^{\circ}44$  and  $\Delta\delta = -1''4$ .
- 2315, 2316. Double: star *s.p.* is C. 2315, and Oxford  $+27^{\circ} 10545$ ,  $+27^{\circ} 10704$ , and  $+28^{\circ} 9643$ , the star *s.p.* is C. 2316, and Oxford  $+27^{\circ} 10546$ ,  $+27^{\circ} 10705$ , and  $+28^{\circ} 964$ . Also  $\beta$ .G.C. 2544, A.B. distance  $11''71$ , mags. 6.2 and 8.2; B.C. distance  $0''44$ , mags. 8.7 and 9.2; B.C. are inseparable on Oxford plates.
2319. Cambridge R.A.  $1^s$  too large, not re-observed.
2321. Two pairs of plates, centres  $+27^{\circ}$ , R.A.  $5^h 0^m$  and  $5^h 8^m$ , epochs 1895.0 and 1895.0 with 1907.2 and 1909.1 give  $\Delta\xi = +9$  and  $\Delta\eta = -1$ : total P.M.  $20''1$  a century (L.P.M. 3).
2322. Two pairs of plates, centres  $+27^{\circ}$ , R.A.  $5^h 0^m$  and  $5^h 8^m$ , epochs 1895.0 and 1895.0 with 1907.2 and 1909.1, give  $\Delta\xi = +9$  and  $\Delta\eta = -2$ : total P.M.  $21''9$  a century (L.P.M. 3). P.M. is given for this star in Paris 5938 (Lal. 9661)  $+^{\circ}0211$   $''000$ ; also in Cinc. xii. 317 and xiii. 557.
2330. Two plates, centre  $+25^{\circ}$ , R.A.  $5^h 8^m$ , epochs 1894.1 and 1909.9, give  $\Delta\xi = -2$  and  $\Delta\eta = -8$ : total P.M.  $15''5$  a century (L.P.M. 5).
2334. The R.A. in the Cambridge Catalogue is  $1^s$  too small, not re-observed. Two plates, centre  $+25^{\circ}$ , R.A.  $5^h 8^m$ , epochs 1894.1 and 1909.9, give  $\Delta\xi = +3$  and  $\Delta\eta = -7$ : total P.M.  $14''4$  a century (L.P.M. 5).
2344. Two plates, centre  $+27^{\circ}$ , R.A.  $5^h 8^m$ , epochs 1895.0 and 1907.2, give  $\Delta\xi = -5$  and  $\Delta\eta = -6$ : total P.M.  $19''4$  a century (L.P.M. 3).
2370. Rejected at Cambridge; Dec. 50' too large. See List E.
2387. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= -0^{\circ}75$  and  $\Delta\delta = 0''0$ .
2403. The Cambridge place is  $1^s$  too large; the position given in the Appendix, p. 299, has been used at Oxford. See List E.
2410. Cambridge notes, "*s.f.*" this is Oxford  $+25^{\circ} 14604$  and  $+26^{\circ} 11929$ ; the *n.p.* star is Berlin B. 1704, Oxford  $+25^{\circ} 14603$  and  $+26^{\circ} 11928$ ,  $\beta$ .G.C. 2647 ( $\Sigma$  679).
2417. Boss' P.G.C. 1273 gives P.Ms.  $-^{\circ}0019$  and  $-^{\circ}030$ .
2420. Boss' P.G.C. 1275 gives P.Ms.  $+^{\circ}0002$  and  $+^{\circ}001$ .
2427. Paris 6169 (Lal. 9998) gives P.Ms.  $+^{\circ}0100$  and  $-^{\circ}073$ .
2435. Boss' P.G.C. 1288 (Brad. 746) gives P.Ms.  $+^{\circ}0019$  and  $-^{\circ}030$ .
2453. Fundamental star,  $\beta$  Tauri. Boss' P.G.C. 1304 gives P.Ms.  $+^{\circ}0024$  and  $-^{\circ}177$ ; also Cinc. xii. 333.
2460. Two plates, centre  $+25^{\circ}$ , R.A.  $5^h 24^m$ , epochs 1899.1 and 1909.1, give  $\Delta\xi = +3$  and  $\Delta\eta = +5$ : total P.M.  $17''4$  a century (L.P.M. 5).
2462. Boss' P.G.C. 1310 gives P.Ms.  $^{\circ}0000$  and  $-^{\circ}019$ .
2472. Boss' P.G.C. 1320 (Brad. 775, 118 Tauri), *n.f.* gives P.Ms.  $+^{\circ}0015$  and  $-^{\circ}034$ . Measured as one star, diameter  $0.86$  ( $0.001 = 0''3$ ) in  $+25^{\circ} 14933$  and  $0.58$  in  $+26^{\circ} 12208$ . Apparently observed as one mass at Cambridge.  $\beta$ .G.C. 2751 ( $\Sigma$  716), distance  $4''89$ , mags. 5.8 and 6.6.



LIST D.—*continued*.Camb.  
No.

2479. The Cambridge place is for the *s.f.* of a wide pair A.C.; both stars are given in Oxford  $+29^{\circ} 12985$ ,  $12984$ ;  $+29^{\circ} 13533$ ,  $13532$ ; and  $+30^{\circ} 10510$ ,  $10509$ .  $\beta$ .G.C. 2758 A.C. ( $\Sigma$  719) distance  $14''.83$ , mags. 7.0 and 8.9; the bright star is also double, A.B., distance  $0''.68$ , mags. 7.0 and 9.5: this is single at Cambridge and Oxford.
2518. The Cambridge Revision notes "*s.p.* of 2"; the brighter and *s.p.* star in Oxford  $+30^{\circ} 10466$  and  $+30^{\circ} 10950$  has been used for the residuals, the other star ( $10467$  and  $10951$ ) is  $1'$  north and  $4''$  later.
2529. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A.  $-0''.65$  and  $\Delta\delta = -0''.1$ .
2550. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= +0''.84$  and  $\Delta\delta = -0''.2$ .
2551. Boss' P.G.C. 1369 gives P.M.s.  $+''0010$  and  $-''030$ ; it is a very close double,  $\beta$ .G.C. 2845,  $\Sigma$  749; distance  $0''.8$ . Measured as one star on the Oxford plates,  $+26^{\circ} 12788$  and  $27^{\circ} 11634$ .
2575. Boss' P.G.C. 1388 (Brad. 810) gives P.M.s.  $+''0023$  and  $-''031$ . Two plates, centre  $+25^{\circ}$ , R.A.  $5^h 32^m$ , epochs 1899.1 and 1909.1, gives  $\Delta\xi = -5$  and  $\Delta\eta = +3$ : total P.M.  $17''.3$  (L.P.M. 5). Boss' P.M. depends upon the observed mean mass.
2600. Two plates, centre  $+25^{\circ}$ , R.A.  $5^h 40^m$ , epochs 1894.1 and 1909.9, give  $\Delta\xi = +6$  and  $\Delta\eta = +1$ . total P.M.  $11''.6$  a century (L.P.M. 5).
2614. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A.  $-0''.44$  and  $\Delta\delta = -1''.2$ . This star, Oxford  $+30^{\circ} 11122$ , is preceded by  $9.4$  mag. star by  $2''$  and is  $1'$  north; it is No. 11121 in the Oxford zone and is a magnitude brighter than the star observed at Cambridge.
2662. Cambridge has a footnote "marked 8.4 mag. on Feb. 12, 1878"; but 9.2 is given in the column for its mag. The magnitudes deduced from the formula for two plates in the Oxford zones are:—
- 8.7 mag. on plate 1310, taken in 1899 Feb. 21,  $+29^{\circ}$ , No. 14051  
8.5 " " 2097, " 1903 Feb. 17,  $+30^{\circ}$ , " 11555
2676. The place in the Cambridge Catalogue is for the *s.f.* star, it is in the Oxford zones  $+26^{\circ} 13226$ ,  $+26^{\circ} 14007$ , also  $+25^{\circ} 17258$ ; the *n.p.* star is  $+26^{\circ} 13225$ ,  $+26^{\circ} 14006$ , and  $+25^{\circ} 17257$ . The two stars form the double star  $\beta$ .G.C. 2941, A.B.,  $\Sigma$  785; C is 12 mag. distance  $18''$ , and is Oxford  $+25^{\circ} 17259$ ,  $+26^{\circ} 13227$ ,  $+26^{\circ} 14008$ .
2681. Two plates, centre  $+25^{\circ}$ , R.A.  $5^h 40^m$ , epochs 1894.1 and 1909.9, give  $\Delta\xi = +1$  and  $\Delta\eta = -9$ : total P.M.  $17''.3$  a century (L.P.M. 5).
2702. Two plates, centre  $+25^{\circ}$ , R.A.  $5^h 40^m$ , epochs 1894.1 and 1909.9, give  $\Delta\xi = 0$  and  $\Delta\eta = -5$ : total P.M.  $9''.5$  a century (L.P.M. 5).
2711. A foot-note in the Cambridge Catalogue, "north preceding of three"; this is Oxford  $+29^{\circ} 14338$ , the other two are Nos. 14339 and 14340; in  $+28^{\circ}$  the three stars are Nos. 11641, 11642, and 11643.
2728. Boss' P.G.C. 1444 has P.M.s.  $-''0007$  and  $''000$ ; in Cinc. xiv. 376.
2746. Red or Variable? Not visible or extremely faint on the Oxford plates in 1896.129, 1903.129, and 1903.167.
2760. Boss' P.G.C. 1457 (Brad. 848) gives P.M.s.  $+''0009$  and  $-''018$ .
2781. The Cambridge Catalogue notes "close double"; apparently the place given is for the mean mass. Only one star has been measured on the Oxford plates, there is no other star measured on three plates nearer than C. 2787, which follows about  $16''$ . Not given in  $\beta$ .G.C.
2818. Boss' P.G.C. 1475 (Brad. 862) has P.M.s.  $-''0001$  and  $-''004$ .
2846. Two plates, centre  $+25^{\circ}$ , R.A.  $5^h 56^m$ , epochs 1899.1 and 1909.1, give  $+1$  and  $+5$ : total P.M.  $15''.2$  a century (L.P.M. 5).
2910. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A.  $-0''.37$  and  $\Delta\delta = +0''.6$ .
2925. Two plates, centre  $+25^{\circ}$ , R.A.  $5^h 56^m$ , epochs 1899.1 and 1909.1, give  $\Delta\xi = 0$  and  $\Delta\eta = +5$ : total P.M.  $15''.0$  a century (L.P.M. 5).
- 2934, 2935. P.M.s. Max. Wolf in the *Astron. Nach.*, Band 171, No. 4101, mentions that this star has P.M.s., found from a comparison of two plates, A. 595 and A. 4006 (exposed 1892.96 and 1905.89), by means of the Stereo-Comparator. The Oxford plates separated by 4.11 years confirm the P.M. In the note Max. Wolf refers to a 12th magnitude star, this is Oxford  $+26^{\circ} 15552$ , with the magnitude deduced as 11.4. Also he refers to a small triangle of faint stars, these are Oxford  $+26^{\circ} 15571$ , deduced mag. 10.8; 15572, mag. 11.0; 15573, mag. 10.8, and are followed  $2''$  and  $40''$  N by 15574, mag. 9.3. The last star was not observed at Cambridge, but one of the faint stars of the triangle, 15572, was observed as C. 2934 and given as 9.2 mag. The star C 2934 is



LIST D.—*continued.*

 Camb.  
No.

either variable or photographically faint—red colour? The epoch of the plate in  $+26^\circ$  zone is 1899 Feb. 25. The deduced magnitudes for these six stars in the two zones are:—

CAMBRIDGE.			OXFORD.			OXFORD.			OXFORD.		
No.	Mag.	Zone.	No.	Mag.	Zone.	No.	Mag.	Zone.	No.	Mag.	Zone.
2935	8.9	$+26^\circ$	15551	9.3	$+27^\circ$	13189	9.7	$+27^\circ$	13810	9.1	
			15552	11.4		13190	11.7		13811	11.1	
			15571	10.8		13216	11.3		13832	10.6	
2934	9.2		15572	11.0		13217	10.9		13833	10.1	
			15573	10.8		13218	11.3		13834	10.3	
			15574	9.3		13219	9.7		13835	9.0	
			Exposed 1899, Feb. 25.			1899, Feb. 25.			1895, Jan. 17.		

2969. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A. =  $-0^s.58$  and  $\Delta\delta = +1''.7$ . But the Oxford plates show distinct P.Ms. in 7.7 years interval.
2992. Single observation in Cambridge, but nothing since found there to agree with the place. No star near on the Oxford plates except C. 2990.
3002. Single observation in Cambridge; three observations in the Revision in 1899.1 give  $\Delta$  R.A. =  $+0^s.04$  and  $\Delta\delta = +0''.1$ .
3015. This is Birmingham 135, "very red star." It is Oxford  $+25^\circ$  20777 (9.9 mag. 1909, Feb. 13);  $+26^\circ$  15399 (10.4 mag. 1899, Feb. 25); 15972 (10.0 mag. 1898, Feb. 26); and  $+27^\circ$  13716 (mag. 9.5 1895, Jan. 17).
3035. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A. =  $-0^s.31$  and  $\Delta\delta = +3''.8$ .
3038. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A. =  $-0^s.61$  and  $\Delta\delta = +3''.2$ .
- 3064a. In the Cambridge Appendix, p. 299 (see List E). It is  $\kappa$  Aurigæ and Boss' P.G.C. 1565 (Paris 7446, and Lal. 11831); where he gives P.Ms.  $-0^s.049$  and  $-''266$ ; also in Cinc. xii. 373 and xiii. 635.
- 3071 and 3070a. These two form a double star, the 3070a place is in the Cambridge Revision. The stars in Oxford are  $+27^\circ$  14420, and the *n.p.* (C. 3070a) star is 14419; also  $+28^\circ$  15054, and *n.p.* is 15053. Not in  $\beta$ .G.C.
3077. The Cambridge Catalogue notes the mag. as 8.0 in 1884, March 14, and 9.0 in 1891, Feb. 27. Both the Oxford plates in 1900, Jan. 10 (No. 1486) and in 1907, Jan. 17 (No. 2508) give the photo. mag. as 7.8. B.D. is 7.8.
3090. Two plates, centre  $+25^\circ$ , R.A.  $6^h$   $12^m$ , epochs 1894.1 and 1909.0, give  $\Delta\xi = +3$  and  $\Delta\eta = -21$ : total P.M.  $42''.4$  a century (L.P.M. 5).
3103. The Cambridge Catalogue notes "coarse double; south preceding." The place given is comparable to Oxford  $+26^\circ$  16017 (mag. 9.2),  $+26^\circ$  16695 (mag. 8.8), and  $+27^\circ$  14152 (mag. 9.3); the *n.f.* star is  $+26^\circ$  16020 (mag. 11.0),  $+26^\circ$  16697 (mag. 10.8), and  $+27^\circ$  14154 (mag. 10.4). Not given by Burnham.
3107. Küstner No. 75 (Lal. 11951) has P.Ms.  $-0^s.005$  and  $+''01$ .
3109. Boss' P.G.C. 1583 gives P.Ms.  $+0^s.0009$  and  $-''076$ .
3146. Paris 7584 (Lal. 12041) gives P.Ms.  $+0^s.0089$  and  $0^s.000$ .
3173. Double-star, *s.f.* only observed at Cambridge. The two stars are Oxford  $+26^\circ$  16868 and 16867,  $+27^\circ$  14309 and 14308,  $+27^\circ$  14822 and 14821; in  $\beta$ .G.C. 3325 ( $\Sigma$  897), distance  $18''.08$ ; mags. 8.2 and 8.5.
3204. Boss' P.G.C. 1612 gives P.Ms.  $+0^s.0006$  and  $-''017$ .
3206. The place used in the residuals is that given in the Appendix on p. 299 and not that given on p. 66, which is about  $1^s$  in error. See List E.
3209. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A. =  $-1^s.00$  and  $\Delta\delta = -0''.6$ . The Oxford photo. mag. indicates a faint star (red or variable); Oxford  $+29^\circ$  17070 mag.; 11.2 (1899, Feb. 21) and  $+30^\circ$  14597 mag.; 11.0 (1903, March 3). There is no brighter star within  $5'$  radius of the place given.
3252. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A. =  $-0^s.51$  and  $\Delta\delta = +0''.2$ .
3261. Two plates, centre  $+25^\circ$ , R.A.  $6^h$   $20^m$ , epochs 1895.1 and 1905.2, give  $\Delta\xi = -5$  and  $\Delta\eta = -5$ : total P.M.  $20''.9$  a century (L.P.M. 5).
3264. The Cambridge Catalogue and the Revision refer to the "*s.f.* of 2," the north fainter star precedes by  $8^s$  and is Oxford  $+27^\circ$  15049;  $+28^\circ$  16271;  $+28^\circ$  17155, and  $+29^\circ$  16712.
- 3306 and 3324. C 3324 is an erroneous observation of 3306. See List E. In the re-observed place at Cambridge it has the note "*p* of 2;" the first star is Oxford  $+27^\circ$  15479 and  $+28^\circ$  17050, the second star follows by  $16^s$  and  $9''$  south and is  $+27^\circ$  15480 and  $+28^\circ$  17051, same photo. mag. 10.8.



LIST D.—*continued*.Camb.  
No.

3310. Cambridge Catalogue gives the mag. as 9.1 and has the foot-note "marked 8.0 mag., Mar. 5, 1877." The star is Oxford +25° 23746, photo. mag. 9.9 (1905, March 22), and +26° 17113, photo. mag. 10.1 (1899, Feb. 25).
3339. Boss' P.G.C. 1668 (Brad. 959) gives P.Ms. —".0004 and —".023.
3358. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A. —0".58 and  $\Delta\delta = +1".0$ .
3381. Boss' P.G.C. 1693 (Brad. 967) gives P.Ms. —".0012 and —".025.
3394. Boss' P.G.C. 1697 (Brad. 970 *mean*) gives P.Ms. —".0008 and —".023. It is also Paris 7968, Lal. 12709, 54 Aurigæ, and is the double star O $\Sigma$  152 and  $\beta$ .G.C. 3518, distance 0".86, mags. 6.0 and 7.8; only observed as one star at Cambridge and as one on the Oxford plates.
3427. Boss' P.G.C. 1704 (Brad. 977) gives P.Ms. +".0006 and —".015.
3449. Noted in a foot-note on p. 70 in the Cambridge Catalogue as "close double," corrected on p. 306 to a "coarse double." The two stars are Oxford +26° 18169, 18170; +26° 18996, 18997; and +27° 15696, 15697; the two stars are 25" apart; in each case the first of the Oxford pairs is C. 3449 and is the brighter and *s.p.* star.
3460. Fundamental star,  $\epsilon$  Gemiuorum. Boss' P.G.C. 1717 gives P.Ms. .0000 and —".020.
3458. The Revision at Cambridge has the note "*n.f.* of 2," to agree with the Oxford plates the note apparently refers to a faint star (photo. mag. 10.5), Oxford +27° 15851, which is *s.p.*, and not to the bright star in the same field, C. 3461.
3465. Boss' P.G.C. 1722 (Brad. 986, Paris 8096, Lal. 12897) has P.Ms. —".0003 and —".029.
3499. Single observation in Cambridge; three observations in the Revision in 1899.2 give  $\Delta$  R.A. = +0".05 and  $\Delta\delta = +2".0$ . There is some evidence of P.M. in R.A. from three Oxford plates between 1896.1 and 1907.1.
3526. Rejected at Cambridge; Dec. 5' too large. See List E.
3540. The place given in the Cambridge Catalogue is the *s.f.* of two stars, Oxford +27° 16314, 16313, and +28° 18767, 18766.
3553. Single observation in Cambridge; three observations at Cambridge noted as "*s* of 2" give  $\Delta$  R.A. = —0".71 and  $\Delta\delta = +0".8$ . The star compared at Oxford with the printed single observation is +26° 19532 and +27° 16085, and is the brighter, south, and following of two.
3557. Single observation in Cambridge; three observations in the Revision in 1899.2 give  $\Delta$  R.A. = +0".43 and  $\Delta\delta = 1".1$ .
3570. Single observation in Cambridge; three observations in the Revision in 1898.9 give  $\Delta$  R.A. —0".30 and  $\Delta\delta = +1".6$ .
3591. Boss' P.G.C. 1780 (Brad. 1007, Paris 8327, Lal. 13299) gives P.Ms. —".0030 and +".013.
3616. A double star,  $\beta$ .G.C. 3710,  $\Sigma$  991; 8 and 9 mags., distance 3".8; the place in the Cambridge Catalogue is for the first star; in Oxford +25° 26077 and +26° 19220, but measured as one star.
3635. Cinc. xiv. 453 (Lal. 13425) gives P.Ms. —".002 and —".123.
3636. Boss' P.G.C. 1796 (Brad. 1013) gives P.Ms. —".0120 and +".086; in Cinc. xiii. 686. Also two plates, centre +26°, R.A. 6<sup>h</sup> 48<sup>m</sup>, epochs 1897.1 and 1908.1, give  $\Delta\xi = -6$  and  $\Delta\eta = +4$ : total P.M. 19".5 a century (L.P.M. 2).
3649. Boss' P.G.C. 1798 (Brad. 1015) gives P.Ms. —".0011 and —".014.
3653. The Cambridge Catalogue has a note that the place given "differs +10" from the B. D. and B. B. (vol. vi.). On the Oxford plate 2099, +30° R.A. 6<sup>h</sup> 54<sup>m</sup>, two stars differing 4" in  $x$  have been measured, +30° 16923, 16924, and +28° 20225, 20226; on plates 964, 1315, and 2499 it has been measured as one star C. Evidence of P.M. is slight.
- 3655 and 3656. The Cambridge Catalogue says "nebulous star. Larger of double." The two Oxford plates give three stars as follows:—

+27° Plate 688. 1895, Feb. 19.				+28° Plate 1498. 1900, Jan. 17.			
No.	Mag.	$x$	$y$	No.	Mag.	$x$	$y$
	16680	10.7	17.985		19783	10.3	12.406
3655.	16681	10.4	17.990		19784	9.5	12.415
3656.	16682	9.3	18.021		19785	8.9	12.443
			23.770				11.485
			23.807				11.522
			23.568				11.285

From these measures it seems clear that the Cambridge note refers to the second and first stars given, which form the double  $\beta$ .G.C. 3748, and not to the pair 16681 and 16682.

3675. Single observation in Cambridge; three observations in the Revision in 1898.7 give  $\Delta$  R.A. = —0".33 and  $\Delta\delta = +4".3$ .
3686. Rejected at Cambridge; an erroneous observation of a star, 3690a, R.A. 14<sup>s</sup> too small. The residuals  $\Delta\xi = +4$  and  $\Delta\eta = -3$  for 3690a. See List E.
3695. Boss' P.G.C. 1809 gives P.Ms. +".0121 and —".823; Paris 8566, Cinc. xii. 406, and xiii. 694.
3707. Single observation in Cambridge; three observations in the Revision in 1899.2 give  $\Delta$  R.A. = +0".15 and  $\Delta\delta = +1".0$ .



LIST D.—*continued.*

Camb.  
No.

3723. Double;  $\beta$ .G.C. 3803 and  $\Sigma$  1012. The *n.p.* was observed at Cambridge, the two stars in the Oxford Zones are  $+28^\circ 19938, 19939$ ;  $+28^\circ 20933, 20934$ ; and  $+29^\circ 19615, 19616$ ; in each pair the *s.f.* is the later number. Distance  $12''.74$ , mags. 8.2 and 8.7.
3731. Double, distance  $33''$ , not in  $\beta$ .G.C. The *n.p.* was observed at Cambridge, the two stars in the Oxford Zones are  $+27^\circ 16949, 16950$ ;  $+28^\circ 20829, 20830$ ;  $+29^\circ 19540, 19541$ .
3732. Double;  $\beta$ .G.C. 3814,  $\Sigma$  1014; distance  $2''.09$ , mags. 8.7 and 8.7, measured as one star on the Oxford plates,  $+26^\circ 19914, +26^\circ 20245$ , and  $+27^\circ 16736$ .
3766. Noted in the Revision as very faint; photo. mag. is 10.6 on both Oxford plates 613 (1895 Jan. 21), 1499 (1900 Jan. 17).
3774. Paris 8717 (Lal. 13792) gives  $-''0047$  and  $-''187$ ; also in Cinc. xii. 412 and xiii. 702.
3775. Cinc. xiv. 463, Lal. 13809 gives P.Ms.  $''000$  and  $-''09$ .
3789. Boss' P.G.C. 1843 (Brad. 1034) gives P.Ms.  $-''0013$  and  $-''049$ .
3791. Single observation in Cambridge; five observations in the Revision in 1899.0 give  $\Delta$  R.A.  $-0^s.71$  and  $\Delta\delta = +0''.8$ .
3816. Two plates, centre  $+29^\circ$ , R.A.  $7^h 7^m$  epochs, 1896.1 and 1906.3, give  $\Delta\delta = 0$  and  $\Delta\eta = +5$ : total P.M.  $14''.7$  a century (L.P.M. 4).
3817. Boss' P.G.C. 1852 (Brad. 1039) gives P.Ms.  $''0000$  and  $-''018$ .
3820. Single observation; rejected at Cambridge Dec. 1' too large.
3831. Two plates, centre  $+26^\circ$ , R.A.  $7^h 12^m$ , epochs 1898.2 and 1908.1, give  $\Delta\delta = -13$  and  $\Delta\eta = -3$ : total P.Ms.  $39''.9$  a century (L.P.M. 2). It is Paris 8844 and Lal. 13972; also in Cinc. xii. 416 and xiii. 709.
3835. Boss' P.G.C. 1859 (Brad. 1048) gives P.Ms.  $-''0001$  and  $-''016$ .
3840. Boss' P.G.C. 1861 (Brad. 1049, Paris 8873, Lal. 14003) gives P.Ms.  $+''0037$  and  $-''092$ . It is also Cinc. xiv. 471;  $\beta$ .G.C. 3905 (Hough 343) has this as double mags. 6 and 12, distance  $22''.36$ .
3843. The Cambridge Catalogue has a note "coarse double." The two stars in the Oxford Zones are  $+26^\circ 20566$  and  $20565$ ;  $+27^\circ 17057$  and  $17056$ , the fainter star is *n.p.* about  $27''$ .
3853. Boss' P.G.C. 1868 (Brad. 1050, Paris 8902, Lal. 14033) gives P.Ms.  $-''0014$  and  $-''009$ .
3862. Two plates, centres  $+26^\circ$ , R.A.  $7^h 12^m$ , epochs 1895.1 and 1909.2, give  $\Delta\xi = -1$  and  $\Delta\eta = -5$ : total P.M.  $15''.3$  a century (L.P.M. 2).
3864. Single observation in Cambridge; three observations in the Revision in 1898.8 give R.A.  $-0^s.67$  and  $\Delta\delta + 0''.3$ .
3865. Paris 8940 (Lal. 14080) gives P.Ms.  $+''0060$  and  $-''166$ ; also in Cinc. xii. 419 and xiii. 713.
3875. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $-0^s.44$  and  $\Delta\delta = +1''.5$ .
3880. Two plates, centre  $+27^\circ$ , R.A.  $7^h 16^m$ , epochs 1895.1 and 1909.2, give  $\Delta\xi = +8$  and  $\Delta\eta = -5$ : total P.M.  $19''.2$  a century. Also two plates  $+27^\circ$ , R.A.  $7^h 8^m$ , epochs 1895.1 and 1909.2, give  $\Delta\xi = +6$  and  $-4$ ; total P.M.  $15''.3$  a century (L.P.M. 3).
3940. Boss' P.G.C. 1921 (Brad. 1068) gives P.Ms.  $-''0051$  and  $-''023$ .
3944. The Cambridge place used is that given in List E.
3945. Rejected at Cambridge; an erroneous observation of C. 3944. See List E.
3949. Boss' P.G.C. 1926 (Brad. 1071) gives P.Ms.  $+''0010$  and  $+''015$ .
3954. Fundamental star (*v* Geminorum, Paris 9082), Boss' P.G.C. gives P.Ms.  $-''0086$  and  $-''090$ .
3974. Paris 9124 (Lal. 14431) gives P.Ms.  $-''0055$  and  $-''157$ ; also in Cinc. xii. 424 and xiii. 722.
3985. Boss' P.G.C. 1956 (Brad. 1080, Paris 9165, Lal. 14494) gives P.Ms.  $-''0024$  and  $-''059$ .
3988. Boss' P.G.C. 1959 (Brad. 1082, Paris 9183, Lal. 14513) gives P.Ms.  $-''0021$  and  $-''040$ .
3991. Two plates, centre  $+29^\circ$ , R.A.  $7^h 25^m$ , epochs 1896.1 and 1906.3, gives  $\Delta\xi = -7$  and  $\Delta\eta = +1$ : total P.M.  $20''.9$  a century (L.P.M. 4).
3996. The Cambridge Catalogue has "close double; middle." Not in  $\beta$ .G.C. It is Oxford  $+25^\circ 29470$ ;  $+26^\circ 20787$ ;  $+26^\circ 21465$ ;  $+27^\circ 18804$ ; in each case it has been measured as a single star.
4005. The Cambridge Catalogue has "close double; larger." Measures of both are given in the Oxford Zone  $+25^\circ 29356, 29355$ ; distance  $3''$ ; only measured as one star in Zone  $+26^\circ$ . Not in  $\beta$ .G.C.
4009. The Cambridge Catalogue has "close double?" Not in  $\beta$ .G.C. Measured as a single star in Oxford Zones  $+27^\circ 19121$ ;  $+28^\circ 22291$ , and  $+28^\circ 22905$ .
4039. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $-0^s.10$  and  $\Delta\delta = -0''.5$ .
4059. Boss' P.G.C. 1987 (*v* Geminorum) gives P.Ms.  $-''0020$  and  $-''116$ . It is also Cinc. xiv. 501.
4098. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A.  $-0^s.55$  and  $\Delta\delta = +0''.6$ .
4100. Cinc. xiii. 739 (Lal. 14890) gives P.Ms.  $-''0004$  and  $-''163$ .
4113. Rejected at Cambridge; Dec. 1' too small. See List E.



LIST D.—*continued*.

- Camb.  
No.
4132. Boss' P.G.C. 2023,  $\sigma$  Geminorum (Paris 9458, Lal. 14962) gives P.Ms.  $+^{\circ}0053$  and  $-^{\circ}237$ ; also in Cinc. xii. 435 and xiii. 746.
4143. Boss' P.G.C. 2028 (Brad. 1109) gives P.Ms.  $-^{\circ}0015$  and  $-^{\circ}027$ .
4150. Fundamental star,  $\beta$  Geminorum (Pollux, Cinc. xii. 436). Boss' P.G.C. 2031 gives P.Ms.  $-^{\circ}0471$  and  $-^{\circ}058$ .
4168. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A.  $= -0^{\circ}31$  and  $\Delta\delta = +3^{\circ}0$ .
4204. Cinc. xiv. 523 gives P.Ms.  $^{\circ}0000$  and  $+0^{\circ}120$ .
4217. Single observation in Cambridge; three observations, north of two stars, in 1897.6 give  $\Delta$  R.A.  $= -0^{\circ}40$  and  $\Delta\delta = 0^{\circ}0$ . This star is Oxford  $+27^{\circ}20185$ ,  $+28^{\circ}23792$ , and  $+29^{\circ}22520$ ; the other *s.f.* star, apparently C. 4223, is Oxford  $+27^{\circ}20186$ ,  $+28^{\circ}23794$ , and  $+29^{\circ}22523$ .
4229. Boss' P.G.C. 2078 ( $\phi$  Geminorum) gives P.Ms.  $-^{\circ}0022$  and  $-^{\circ}037$ .
4230. Cinc. xiv. 530 gives P.Ms.  $+^{\circ}0053$  and  $-^{\circ}148$ .
4256. Single observation in Cambridge; three observations in the Revision in 1897.5 give  $\Delta$  R.A.  $= -0^{\circ}56$  and  $\Delta\delta = +2^{\circ}6$ .
4285. Cinc. xiii. 772 (Paris 9796, Lal. 15565) gives P.Ms.  $-^{\circ}0132$  and  $-1^{\circ}151$ ; also in Cinc. xii. 452.
4290. Boss' P.G.C. 2117 ( $\omega^1$  Cancri, Brad. 1140, Paris 9803, Lal. 15581) gives P.Ms.  $+^{\circ}0010$  and  $-^{\circ}001$ .
4294. Single observation in Cambridge; three observations in the Revision in 1897.5 give  $\Delta$  R.A.  $+0^{\circ}02$  and  $\Delta\delta = +0^{\circ}4$ .
4296. Boss' P.G.C. 2121 ( $\omega^2$  Cancri, Brad. 1144) gives P.Ms.  $-^{\circ}0009$  and  $+^{\circ}012$ .
4322. Fundamental star,  $\chi$  Geminorum (Brad. 1149); Boss' P.G.C. 2131 gives P.Ms.  $-^{\circ}0015$  and  $-^{\circ}052$ .
4335. The Cambridge Catalogue has a foot-note "close double; middle." Not in  $\beta$ .G.C. In the Oxford Zones  $+28^{\circ}24337$ , and  $29^{\circ}23933$ , but it is only measured as one star.
4342. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= -0^{\circ}59$  and  $\Delta\delta = -0^{\circ}4$ .
4343. The Cambridge Catalogue has a foot-note "close double; middle," measured as a single star in the Oxford Zones  $+27^{\circ}20940$ ;  $+27^{\circ}21357$ ; and  $+28^{\circ}24160$ .  $\beta$ .G.C. 4421,  $\Sigma$  1177; distance  $3^{\circ}51$ , mag. 6.5 and 7.4.
4354. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= -0^{\circ}47$  and  $\Delta\delta = +1^{\circ}1$ ; there is a note "v. ft." It was not measured on plate 514 (centre  $+25^{\circ}8^h 4^m$ ), but is  $+25^{\circ}31247$  (1910, Mar. 20) as photo. mag. 10.0;  $+25^{\circ}31795$  (1910, Feb. 4) as 10.5 mag.; and  $+26^{\circ}23306$  (1908, Feb. 1) as 12.1 mag. Camb. 4359 is *s.f.* 22"; on the same dates the Oxford numbers and photo. mags. for this star are, respectively,  $+25^{\circ}31248$ , 9.7;  $+25^{\circ}31796$ , 10.3; and  $+26^{\circ}23307$ , 10.9.
4374. Two plates, centre  $+25^{\circ}$ , R.A.  $8^h 4^m$ , epochs 1894.1 and 1910.1, give  $\Delta\xi = -6$  and  $\Delta\eta = 0$ : total P.M.  $11^{\circ}3$  a century (L.P.M. 5).
4377. Boss' P.G.C. 2149 (Brad. 1162) gives P.Ms.  $-^{\circ}0009$  and  $-^{\circ}034$ . It is  $\beta$ .G.C. 4447 ( $\Sigma$  1186); distance  $3^{\circ}17$  and mags. 7.1 and 10.4. In Oxford  $+27^{\circ}21341$  and  $+28^{\circ}24473$ ; it is measured as a single star.
4379. Two plates, centre  $+25^{\circ}$ , R.A.  $8^h 4^m$ , epochs 1894.1 and 1910.1, give  $\Delta\xi = -2$  and  $\Delta\eta = -16$ : total P.M.  $30^{\circ}4$  a century (L.P.M. 5).
4381. Single observation in Cambridge Catalogue; three observations in the Revision in 1898.8 give  $\Delta$  R.A.  $= -0^{\circ}49$  and  $\Delta\delta = +1^{\circ}2$ .
4393. Boss' P.G.C. 2156 ( $\psi^1$  Cancri, Brad. 1166) gives P.Ms.  $-^{\circ}0008$  and  $-^{\circ}038$ .
4397. Boss' P.G.C. 2157 ( $\psi^2$  Cancri, Brad. 1167, Paris 9975, Lal. 15925, Cinc. xii. 456 and xiii. 783) gives P.Ms.  $-^{\circ}0051$  and  $-^{\circ}354$ . Two plates, centre  $+25^{\circ}$ , R.A.  $8^h 4^m$ , epochs 1894.1 and 1910.1, give  $\Delta\xi = -7$  and  $\Delta\eta = -18$ : total P.M.  $36^{\circ}5$  a century (L.P.M. 5). Also two plates, centre  $+26^{\circ}$ , R.A.  $8^h 0^m$ , epochs 1893.2 and 1908.1, give  $\Delta\xi = -1$  and  $\Delta\eta = -19$ : total P.M.  $38^{\circ}0$  a century (L.P.M. 2).
4398. Two plates, centre  $+25^{\circ}$ , R.A.  $8^h 4^m$ , epochs 1894.1 and 1910.1, give  $\Delta\xi = +1$  and  $\Delta\eta = -7$ ; total P.M.  $13^{\circ}4$  a century (L.M.P. 5).
4403. Single observation in Cambridge; three observations in the Revision in 1898.2 give  $\Delta$  R.A.  $= -^{\circ}64$  and  $\Delta\delta = -1^{\circ}2$ .
4419. Boss' P.G.C. (Brad. 1173) gives P.Ms.  $+^{\circ}0001$  and  $-^{\circ}023$ .
4450. The Cambridge Catalogue has a foot-note "close double; middle." They are measured as two stars in Oxford  $+26^{\circ}23798$ , 23797; in  $+27^{\circ}21502$ , 21501, and on a duplicate plate 601; in  $+26^{\circ}24192$  it is measured as one star. The pair is  $\beta$ .G.C. 4530; distance  $\pm 2\frac{1}{2}''$ , mags. 9 and 10. The residuals are given for the mean of the two stars.
4482. Boss' P.G.C. 2202 ( $\chi$  Cancri, Brad. 1181, Paris 10168, Lal. 16270, Cinc. xii. 465 and xiii. 793) has P.Ms.  $-^{\circ}0009$  and  $-^{\circ}388$ . Two plates, centre  $+27^{\circ}$ , R.A.  $8^h 12^m$ , epochs 1895.0 and 1909.2, give  $\Delta\xi = +0$  and  $\Delta\eta = -17$ : total P.M.  $35^{\circ}1$  a century (L.P.M. 3).



## LIST D.—continued.

 Camb.  
No.

4498. Two plates, centre  $+26^\circ$ , R.A.  $8^h 16^m$ , epochs 1893.2 and 1908.2, give  $\Delta\xi = -2$  and  $\Delta\eta = -8$ : total P.M.  $16''.4$  a century (L.P.M. 2).
4505. Two plates, centres  $+26^\circ$ , R.A.  $8^h 16^m$ , epochs 1893.2 and 1908.2 give  $\Delta\xi = 0$  and  $\Delta\eta = -12$ : total P.M.  $24''.0$  a century (L.P.M. 2).
4512. Boss' P.G.C. 2222 gives P.Ms.  $-\text{''}0015$  and  $-\text{''}015$ .
4529. Boss' P.G.C. 2232 ( $\phi^1$  Cancri, Brad. 1190, Paris 10318, Lal. 16491) gives P.Ms.  $-\text{''}0023$  and  $-\text{''}131$ ; also in Cinc. xiv. 570.
4532. Observed at Cambridge as a "close double; middle." Boss' P.G.C. 2240 ( $\phi^2$  Cancri, Brad. 1191) gives P.Ms.  $-\text{''}0005$  and  $-\text{''}008$ ; and the other star of the pair, Boss' 2241, gives the P.Ms.  $-\text{''}0005$  and  $-\text{''}009$ . It is  $\beta$ .G.C. 4601 ( $\Sigma$  1223); distance  $4''.56$ , mags. 6.0 and 6.5. In the Oxford Zones,  $+27^\circ 21904$ , and  $+28^\circ 25409$ , they have been measured as a single star.
4533. Boss' P.G.C. 2238 ( $\nu^1$  Cancri, Brad. 1193) gives P.Ms.  $-\text{''}0029$  and  $-\text{''}087$ . This star, and C. 4534, form the double star  $\beta$ .G.C. 4602 ( $\Sigma$  1224), distance  $5''.84$ , mags. 6.0 and 7.1; measured as a single star, Oxford  $+25^\circ 32808$  (1905, Mar. 31).
4534. Boss' P.G.C. 2239 gives P.M.s.  $-\text{''}0029$  and  $-\text{''}084$ . Forms the double with C. 4533. Included in the measures given as  $+25^\circ 32808$ .
4541. Double. The Cambridge place is for the s.f. of two stars.  $\beta$ .G.C. 4611 ( $\Sigma$  1228). The Oxford Zones give both stars,  $+27^\circ 21962$  and *n.p.* 21961, and  $+28^\circ 25451$  and *n.p.* 25458.
4543. Single observation in Cambridge; three observations in the Revision in 1898.2 give  $\Delta$  R.A.  $= -0''.43$  and  $\Delta\delta = -0''.2$ .
4547. Boss' P.G.C. 2251 ( $\nu^2$  Cancri, Brad. 1198) gives P.Ms.  $-\text{''}0020$  and  $-\text{''}071$ .
4564. Boss' P.G.C. 2263 ( $\nu^3$  Cancri, Brad. 1201) gives P.Ms.  $-\text{''}0062$  and  $-\text{''}063$ .
4618. Paris 10580 (Lal. 16933)  $-\text{''}0066$  and  $-\text{''}180$ ; also in Cinc. xii. 475 and xiii. 813.
4620. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= -0''.72$  and  $\Delta\delta = +0''.1$ .
4623. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= -0''.79$  and  $\Delta\delta = -0''.8$  for a star "*n* of 2." There is an uncertainty as to whether the other star referred to is C. 4622 (Oxford  $+25^\circ 33215$  and  $33638$ ); the note would suit if the other star were C. 4621 (Oxford  $+25^\circ 33214$  and  $33636$ ) or even C. 4620 (Oxford  $+25^\circ 33213$  and  $33635$ ).
4660. The Cambridge Catalogue has a foot-note "close double." Not in  $\beta$ .G.C.; measured as a single star in Oxford  $+25^\circ 33757$ ,  $+26^\circ 24651$ , and  $+26^\circ 24949$ .
4674. Large P.M. (about  $0''.4$  annually) from Oxford plates. The three Oxford plates give  $\Delta\xi$  and  $\Delta\eta = -8$  and  $-18$  (1893.2),  $-4$  and  $-23$  (1899.3), and  $-13$  and  $-38$  (1910.0). Not in Boss; 8.5 mag.
4688. Fundamental star,  $\iota$  Cancri. Boss' P.G.C. 2348 (Paris 10768, Lal. 17246) gives P.Ms.  $-\text{''}0015$  and  $-\text{''}050$ . It is double and is  $\beta$ .G.C. 4763 ( $\Sigma$  1268), the other star is C. 4687.
4722. Boss' P.G.C. 2380 (Brad. 1254, Paris 10891, Cinc. xii. 488 and xiii. 832) gives P.Ms.  $-\text{''}0365$  and  $-\text{''}245$ .
4723. Double  $\beta$ .G.C. 4826 ( $\Sigma$  1288) distance  $7''.52$ ; mag. 8.9 and 9.0. Oxford  $+28^\circ 26335$ ,  $26334$ ;  $+28^\circ 26738$ ,  $26737$ ; and  $+29^\circ 26172$ ,  $26171$ . The Cambridge Catalogue seems to indicate that the mean has been observed. In forming the O-C residuals the mean of the two Oxford stars has been used.
4732. Two plates, centre  $+27^\circ$ , R.A.  $8^h 52^m$ , epochs 1895.1 and 1909.3, give  $\Delta\xi = +4$  and  $\Delta\eta = -18$ : total P.M.  $39''.2$  a century (L.P.M. 3).
4739. Boss' P.G.C. 2391 (Brad. 1258) gives P.Ms.  $-\text{''}0008$  and  $-\text{''}039$ .
4746. Single observation in Cambridge; three observations in the Revision in 1897.5 give  $\Delta$  R.A.  $= -0''.58$  and  $\Delta\delta = +0''.6$ .
4758. Cinc. xiv. 625 (Lal. 17673) gives P.Ms.  $-\text{''}0003$  and  $-\text{''}17$ .
4789. Boss' P.G.C. 2419 (Brad. 1273) gives P.Ms.  $-\text{''}0044$  and  $-\text{''}088$ .
4790. Double. The star observed at Cambridge is the south star.  $\beta$ .G.C. 4893 ( $\Sigma$  1301), distance  $9''.96$ ; mags. 8.5 and 9.0. The pair is in the Oxford Zones, and the south star (C. 4790) is given first,  $+26^\circ 25615$ ,  $25629$ ;  $+27^\circ 23472$ ,  $23471$ ; and  $+27^\circ 23094$ ,  $23093$ .
4794. Two plates, centre  $+27^\circ$ , R.A.  $8^h 52^m$ , epochs 1895.1 and 1909.3, gives  $\Delta\xi = -5$  and  $\Delta\eta = -10$ : total P.M.  $23''.5$  a century (L.P.M. 3).
4798. Boss' P.G.C. 2426 ( $\nu$  Cancri) gives P.Ms.  $-\text{''}0000$  and  $-\text{''}005$ .
4808. Boss' P.G.C. 2429 (Brad. 1278) gives P.Ms.  $-\text{''}0001$  and  $-\text{''}008$ .
4832. Boss' P.G.C. 2444 ( $\tau$  Cancri) gives P.Ms.  $-\text{''}0020$  and  $-\text{''}009$ .
4837. Single in Cambridge; three observations in the Revision in 1897.7 give  $\Delta$  R.A.  $= -0''.50$  and  $\Delta\delta = -1''.2$ .
4838. Boss' P.G.C. 2447 (Brad. 1286, Paris 11228, Cinc. xii. 501 and xiii. 848) gives P.Ms.  $-\text{''}0087$  and  $-\text{''}387$ . Two Oxford plates, centre  $+26^\circ$ , R.A.  $9^h 4^m$ , epochs 1893.2 and 1908.2, gives  $\Delta\xi = -7$  and  $\Delta\eta = -17$ : total  $36''.8$  a century (L.P.M. 2).



## NOTES.

LIST D.—*continued*.

- Camb.  
No.
4860. Two plates, centre  $+26^\circ$ , R.A.  $9^h 4^m$ , epochs 1893.2 and 1908.2, give  $\Delta\xi = -11$  and  $\Delta\eta = -24$ : total P.M.  $23''.4$  a century (L.P.M. 2).
4873. Two plates, centre  $+27^\circ$ , R.A.  $9^h 8^m$ , epochs 1895.1 and 1909.3, give  $\Delta\xi = -7$  and  $\Delta\eta = +2$ : total P.M.  $15''.0$  a century (L.P.M. 3).
4896. Paris 11419 (Lal. 18286) gives P.Ms.  $.0000$  and  $-.514$ ; also in Cinc. xii. 507 and xiii. 857.
4921. Boss' P.G.C. 2508 (Brad. 1313, Paris 11500, Cinc. xii. 511 and xiii. 863) gives P.Ms.  $+.0041$  and  $-.150$ . Two plates, centre  $+25^\circ$ , R.A.  $9^h 16^m$ , epochs 1893.3 and 1905.2, give  $\Delta\xi = +4$  and  $\Delta\eta = -6$ : total P.M.  $18''.1$  a century (L.P.M. 5).
4933. Boss' P.G.C. 2518 (Brad. 1318, Paris 11546, Lal. 18465) gives P.Ms.  $-.0092$  and  $-.003$ .
4936. Boss' P.G.C. 2520 (Brad. 1319) gives P.Ms.  $+.0009$  and  $-.050$ .
4940. Boss' P.G.C. 2524 ( $\kappa$  Leonis, Paris 11574, Lal. 18491) gives P.Ms.  $-.0023$  and  $-.053$ . Double star  $\beta$ .G.C. 5062, distance  $3''.05$ , mags. 4.9 and 10.7; measured as a single star in Oxford  $+26^\circ 26'38''$  and  $+27^\circ 24'17''$ .
4958. Cinc. xiv. 682 gives P.Ms.  $-.001$  and  $-.16$ .
5001. Cinc. xiii. 878 (Cinc. xii. 518 and Lal. 18721) gives P.Ms.  $-.0145$  and  $-.228$ ; not in Boss' P.G.C.
5006. Single in Cambridge; three observations in the Revision in 1897.3 give  $\Delta$  R.A.  $= -0''.43$  and  $\Delta\delta = +0''.2$ .
5010. Two plates, centre  $+25^\circ$ , R.A.  $9^h 32^m$ , epochs 1893.3 and 1905.2, give  $\Delta\xi = -9$  and  $\Delta\eta = -2$ : total P.M.  $23''.2$  a century (L.P.M. 5).
5021. Leiden 3914, Lick Observatory Bulletin No. 29, gives this as double mags. 8.6 and 11.2, distance  $0''.98$ . It is single in the Oxford Zones,  $+29^\circ 27'11''$  and  $+30^\circ 23'39''$ .
5029. Two plates, centre  $+26^\circ$ , R.A.  $9^h 28^m$ , epochs 1893.2 and 1908.2, give  $\Delta\xi = +7$  and  $\Delta\eta = -3$ : total P.M.  $15''.2$  a century (L.P.M. 2).
5033. Variability in magnitude found at this Observatory in 1908, March 23 as already announced in the Harvard Circular, No. 133 A.N. (4218).
5039. Boss' P.G.C. 2583 (Brad. 1348) gives P.Ms.  $-.0077$  and  $-.027$ .
5062. Boss' P.G.C. 2603 (Brad. 1357) gives P.Ms.  $-.0009$  and  $-.047$ .
5111. The Cambridge Catalogue has a foot-note, "Close double, middle." Not in  $\beta$ .G.C.; measured as one star in Oxford  $+26^\circ 27'26''$  and  $+27^\circ 24'41''$ ; but measured as two stars in  $+27^\circ 24'36''$  and  $24'35''$ .
5119. Boss' P.G.C. 2642 (Brad. 1382, Paris 12105, Lal. 19303). Cinc. xii. 532 and xiii. 898 gives P.Ms.  $+.0011$  and  $-.193$ .
5120. Double.  $\beta$ .G.C. 5228, distance  $0''.44$ , mags. 8.6 and 9.2; observed and measured as one star at Cambridge and Oxford, Oxford  $+29^\circ 28'42''$  and  $+30^\circ 23'8''$ .
5121. Variable. See Harvard Circular, No. 133, A.N. (4218). Oxford  $+27^\circ 25'04''$  and  $+28^\circ 29'26''$ .
5124. The Cambridge Catalogue has a foot-note, "Close double, middle."  $\beta$ .G.C. 5233 ( $\Sigma$  1389); as one star in Oxford  $+27^\circ 25'08''$  and  $+28^\circ 29'28''$ .
5130. Fundamental star,  $\mu$  Leonis (Cinc. xii. 536). Boss' P.G.C. 2648 gives P.Ms.  $-.0163$  and  $-.063$ .
5143. Paris 12167 (Lal. 19386) gives P.Ms.  $.0000$  and  $-.132$ ; in Cinc. xiv. 735; not in Boss' P.G.C.
5173. Two plates, centre  $+29^\circ$ , R.A.  $9^h 49^m$ , epochs 1896.1 and 1906.3, give  $\Delta\xi = -12$  and  $\Delta\eta = -5$ : total P.M.  $38''.5$  a century. Also two plates, centre  $+29^\circ$ , R.A.  $9^h 58^m$ , epochs 1896.1 and 1906.3, give  $\Delta\xi = -10$  and  $\Delta\eta = -2$ : total P.M.  $30''.2$  a century (L.P.M. 4).
5175. Boss' P.G.C. 2675 gives P.Ms.  $-.0077$  and  $-.050$ .
5179. Two plates, centre  $+25^\circ$ , R.A.  $9^h 56^m$ , epochs 1893.3 and 1905.2, give  $\Delta\xi = -11$  and  $\Delta\eta = -1$ : total  $27''.6$  a century (L.P.M. 5). Also Paris 12275 (Lal. 19529) gives  $-.0237$  and  $-.034$ ; in Cinc. xii. 539 and xiii. 909.
5195. Two plates, centre  $+25^\circ$ , R.A.  $9^h 56^m$ , epochs 1893.3 and 1905.2, give  $\Delta\xi = +1$  and  $\Delta\eta = +6$ : total P.M.  $15''.3$  a century (L.P.M. 5).
5229. Two plates, centre  $+25^\circ$ , R.A.  $10^h 4^m$ , epochs 1893.3 and 1910.2, give  $\Delta\xi = -7$  and  $\Delta\eta = -4$ : total  $14''.4$  (L.P.M. 5).
5238. Measured as a single star on Oxford plate 1739 (1901.2) in Zone  $+28^\circ 30'39''$ ; as two stars in  $+29^\circ 29'07''$  and  $29'06''$ , and  $+30^\circ 24'20''$  and  $24'21''$ ; distance  $3''.5$ , photo. mags. 10.6 and 12.0. The brighter star has been compared with the Cambridge place for plates R.A.  $10^h 3^m +30^\circ$  and R.A.  $10^h 7^m +29^\circ$ , but the single measured image has been used for plate R.A.  $10^h 3^m +28^\circ$ . There is no note in the Cambridge Catalogue as to duplicity. Not in  $\beta$ .G.C.
5255. Cinc. xiv. 773 gives P.Ms.  $.0000$  and  $-.115$ .
5271. Boss' P.G.C. 2724 (Brad. 1422) gives P.Ms.  $-.0051$  and  $-.034$ .
5274. Boss' P.G.C. 2727 (Brad. 1423, Paris 12568, Lal. 19927) gives P.Ms.  $-.0037$  and  $-.097$ ; also in Cinc. xiv. 782.
5280. Two plates, centre  $+26^\circ$ , R.A.  $10^h 8^m$ , epochs 1896.2 and 1908.2, give  $\Delta\xi = +7$  and  $-10$ : total P.M.  $30''.5$  a century (L.P.M. 2).
5285. Two plates, centre  $+29^\circ$ , R.A.  $10^h 7^m$ , epochs 1896.1 and 1906.3, give  $\Delta\xi = -2$  and  $\Delta\eta = -8$ : total P.M.  $24''.3$  a century; and two plates, centre  $+29^\circ$ , R.A.  $10^h 16^m$ , epochs 1896.1 and 1906.3, give  $\Delta\xi = -5$  and  $\Delta\eta = -7$ : total P.M.  $25''.5$  a century (L.P.M. 4).



LIST D.—*continued*.

 Camb.  
No.

5289. Double. Only the *s.f.* star observed at Cambridge.  $\beta$ .G.C. 5377 ( $\Sigma$  1421); distance  $4''\cdot39$ , mags. 7·5 and 8·5. In Oxford they have been measured as a single star,  $+27^\circ 25901$  and  $+28^\circ 30515$ ; two stars are given in  $+29^\circ 29311$  and  $29310$ .
5296. Two plates, centre  $+29^\circ$ , R.A.  $10^h 16^m$ , epochs 1896·1 and 1906·3, give  $\Delta\xi = +2$  and  $\Delta\eta = +5$ : total P.M.  $16''\cdot0$  a century (L.P.M. 4).
5355. Cinc. xiv. 797 (Lal. 20223) gives P.Ms.  $+''\cdot014$  and  $-''\cdot011$ .
5365. Two plates, centre  $+26^\circ$ , R.A.  $10^h 24^m$ , epochs 1896·2 and 1908·2, give  $\Delta\xi = +7$  and  $\Delta\eta = 0$ : total P.M.  $17''\cdot5$  a century (L.P.M. 2).
5392. Double star. Observed as one star at Cambridge; not in  $\beta$ .G.C. Measured as two stars in Oxford  $+29^\circ 29705$ ,  $29706$ ; and  $+28^\circ 31392$  and  $31391$ ; distance  $2\frac{1}{2}''$ , photo. mags. 10·6 and 11·0. The residuals, O—C, depend upon the mean of the two stars.
5407. Two plates, centre  $+29^\circ$ , R.A.  $10^h 34^m$ , epochs 1896·1 and 1906·3, give  $\Delta\xi = +6$  and  $\Delta\eta = -3$ : total P.M.  $19''\cdot8$  a century (L.P.M. 4).
5413. Double star (A.B.) and a faint star (C.)—Herschel 16 mag. at  $15''$ ;  $\beta$ .G.C. 5485 ( $\Sigma$  1451). A.B. are in Oxford  $+26^\circ 28819$  and  $28818$ ; and  $+27^\circ 26246$  and  $26245$ . C. was not measured. P.Ms. in Cinc. xiv. 811,  $+''\cdot003$  and  $-''\cdot20$ .
5421. Two plates, centre  $+25^\circ$ , R.A.  $10^h 28^m$ , epochs 1893·3 and 1910·2, give  $\Delta\xi = -9$  and  $\Delta\eta = -2$ : total P.M.  $16''\cdot4$  a century (L.P.M. 5).
5430. Two plates, centre  $+27^\circ$ , R.A.  $10^h 36^m$ , epochs 1899·3 and 1909·3, give  $\Delta\xi = +8$  and  $\Delta\eta = -1$ : total P.M.  $24''\cdot3$  a century (L.P.M. 3). Also in Cinc. xii. 583 and xiii. 960.
5447. Boss' P.G.C. 2839 (Brad. 1480) gives P.Ms.  $''\cdot0000$  and  $-''\cdot013$ .
5464. Uncertain if P.M.; only on one plate at Oxford.
5465. Single observation in Cambridge; four observations in the Revision in 1897·5 give  $\Delta$  R.A.  $= -0^\circ\cdot71$  and  $\Delta\delta = -1''\cdot5$ .
5470. Boss' P.G.C. 2852 (Brad. 1483) gives P.Ms.  $-''\cdot0079$  and  $-''\cdot065$ . Has a faint comparison  $\beta$ .G.C. 5535, distance  $10''\cdot9$ , mags. 6·0 and 13·0. Measured as one star in Oxford  $+26^\circ 29126$ ; in  $+27^\circ$  there are two stars, 26499 and 26500, *s.f.* at  $12''$ . Also in Cinc. xiv. 825.
5475. Two plates, centre  $+27^\circ$ , R.A.  $10^h 36^m$ , epochs 1899·3 and 1909·3, give  $\Delta\xi = -5$  and  $\Delta\eta = +5$ : total P.M.  $20''\cdot1$  a century (L.P.M. 3).
5476. Cinc. xiv. 827 (Lal. 20674) gives P.Ms.  $''\cdot0000$  and  $-''\cdot095$ .
5509. Boss' P.G.C. 2881 (Brad. 1497) gives P.Ms.  $-''\cdot0068$  and  $-''\cdot053$ .
5514. Boss' P.G.C. 2887 (Brad. 1501) gives P.Ms.  $-''\cdot0002$  and  $+''\cdot021$ .
5518. Single observation in Cambridge; four observations in the Revision in 1897·5 give  $\Delta$  R.A.  $= -0^\circ\cdot56$  and  $\Delta\delta = -0''\cdot4$ .
5549. Boss' P.G.C. 2904 (Brad. 1512) gives P.Ms.  $-''\cdot0048$  and  $-''\cdot006$ .
5554. Boss' P.G.C. 2909 (Brad. 1515, Paris 13362, Lal. 20990) gives P.Ms.  $-''\cdot0055$  and  $-''\cdot017$ . Double  $\beta$ .G.C. 5603 ( $\Sigma$  1487), distance  $6''\cdot17$ , mags. 5·0 and 7·0; measured as a single star in Oxford  $+25^\circ 38517$  and  $+26^\circ 29251$ : the diameters of the images are  $36''$  and  $24''$ .
5559. Cinc. xiii. 978 (Cinc. xii. 603, Paris 13378, and Lal. 21008) gives P.Ms.  $-''\cdot0358$  and  $-''\cdot102$ .
5565. Two plates, centre  $+25^\circ$ , R.A.  $10^h 52^m$ , epochs 1900·2 and 1909·1, give  $\Delta\xi = +5$  and  $\Delta\eta = 0$ : total P.M.  $16''\cdot8$  a century (L.P.M. 5).
5579. Double; not in  $\beta$ .G.C.; observed as one mass at Cambridge. Measured as one star on Oxford plates 364 and 1520; and as two stars on plates 1357, 1380, and 2729; in Zone  $+25^\circ 38564$  and  $38565$ ,  $+26^\circ 29562$  and  $29563$ , and in  $+27^\circ 26903$  and  $26904$ ; distance  $4\frac{1}{2}''$ . The residuals are given for the mean mass.
5585. Single in Cambridge; four observations in the Revision in 1897·5 give  $\Delta$  R.A.  $= -0^\circ\cdot58$  and  $\Delta\delta = +2''\cdot4$ .
5593. Two plates, centre  $+25^\circ$ , R.A.  $11^h 0^m$ , epochs 1893·3 and 1909·1 give  $\Delta\xi = +3$  and  $\Delta\eta = -8$ : total P.M.  $16''\cdot1$  a century (L.P.M. 5).
5607. Single in Cambridge; three observations of the *s.f.* of two stars in the Revision in 1897·6 give  $\Delta$  R.A.  $= -0^\circ\cdot29$  and  $\Delta\delta = -0''\cdot2$ ; the star is in Oxford  $+25^\circ 38679$ ; the *n.p.* star is 38678 and brighter.
5616. Single observation in Cambridge; three observations in the Revision in 1897·6 give  $\Delta$  R.A.  $= -0^\circ\cdot56$  and  $\Delta\delta = +1''\cdot2$ .
5620. Boss' P.G.C. 2943 (Brad. 1534, Paris 13548, Lal. 21237, Cinc. xii. 615 and xiii. 993) gives P.Ms.  $-''\cdot0297$  and  $-''\cdot082$ . Also, two Oxford plates  $+25^\circ$ , R.A.  $11^h 0^m$ , epochs 1893·3 and 1909·1, give  $\Delta\xi = -22$  and  $\Delta\eta = -1$ : total P.M.  $41''\cdot6$  a century (L.P.M. 5).
5626. Two plates, centre  $+25^\circ$ , R.A.  $11^h 0^m$ , epochs 1893·3 and 1909·1, give  $\Delta\xi = -5$  and  $\Delta\eta = 0$ : total P.M.  $9''\cdot5$  a century (L.P.M. 5).
5636. Boss' P.G.C. 2949 (Brad. 1537) gives P.Ms.  $-''\cdot0047$  and  $-''\cdot031$ .
5647. Boss' P.G.C. 2956 (Brad. 1541) gives P.Ms.  $+''\cdot0002$  and  $-''\cdot002$ .



## NOTES.

## LIST D.—continued.

Camb.  
No.

5664. The images of this star on plate 1743 and 1888 are slightly elongated in  $x$ , the surrounding stars are circular; obviously the star is double; not in  $\beta$ .G.C. In Oxford  $+28^\circ 32'36.4$  and  $+29^\circ 31'04.9$ .
5675. Single observation in Cambridge; three observations in the Revision in 1897.3 give  $\Delta$  R.A. =  $-0^s.81$  and  $\Delta\delta = +0''.9$ .
5681. Only comes within the area of one Oxford plate (1391)  $+25^\circ$ , R.A.  $11^h 8^m$ .
5764. Two plates, centre  $+25^\circ$ , R.A.  $11^h 24^m$ , epochs 1899.3 and 1909.1, give  $\Delta\xi = -6$  and  $\Delta\eta = -2$ : total P.M.  $19''.3$  a century (L.P.M. 5).
5774. Paris 14032 (Lal. 21849) gives P.Ms.  $-0^s.0094$  and  $.000$ .
5792. Cinc. xiv. 912 (Lal. 21907) gives P.Ms.  $.000$  and  $-0''.11$ .
5793. P.Ms. in Cinc. xiv. 913 (Lal. 21914)  $.0000$  and  $-0''.073$ .
5808. P.Ms. in Cinc. xiv. 918 (Lal. 21992)  $.000$  and  $-0''.07$ .
5809. Boss' P.G.C. 3052 gives P.Ms.  $+0^s.0022$  and  $-0''.020$ . A triple star,  $\beta$ .G.C. 5841 ( $\Sigma$  1555); A. B. distance  $1''.24$ , mags. 6.4 and 6.8. These two have been observed as one star at Cambridge and in the two Oxford Zones  $+28^\circ 33'10.6$  and  $+29^\circ 31'43.2$ . C. is Oxford  $+28^\circ 33'10.7$  and  $+29^\circ 31'43.3$ , distance  $22''$  and photo. mag. 11.4 and 11.6.
5830. "Close double, preceding" in the Cambridge Catalogue;  $\beta$ .G.C. 5866 ( $\Sigma$  1564), in Oxford  $+27^\circ 28'03.0$  as a single star, in  $+28^\circ 33'04.7$  and  $33'04.8$  ( $=n.f.$ ), photo mags. 8.3 and 8.5.
5850. Single observation in Cambridge; four observations in the Revision in 1897.6 of the " $s.f.$  and brighter" star give the  $\Delta$  R.A. =  $+0^s.70$  and  $\Delta\delta = +1''.4$ . The Oxford Zones give  $+25^\circ 39'67.2$  and  $39'65.8$ , photo. mags. 10.6 and 10.6;  $+26^\circ 30'40.5$  and  $30'40.6$ , photo. mags. 11.0 and 11.0; in each case the first mentioned star number has been taken to correspond with the printed Cambridge place and is the  $n.p.$  star: adopting the revised position, the residuals would still be large. The two stars form the double in  $\beta$ .G.C. 5890.
5870. Single observation. This was not found at Cambridge in the Revision in 1897, April 29 and 1897, May 3; nor could any star be identified with the printed place on plates 1830 (1901, Dec. 18) and 1930 (1902, May 5).
5896. Single observation in Cambridge; four observations in the Revision in 1897.6 give  $\Delta$  R.A. =  $-0^s.15$  and  $\Delta\delta = +1''.3$ .
5925. Cinc. xiv. 954 (Lal. 22489) gives P.Ms.  $-0^s.0130$  and  $.000$ .
5931. Two plates, centre  $+25^\circ$ , R.A.  $11^h 56^m$ , epochs 1893.3 and 1909.3, give  $\Delta\xi = -5$  and  $\Delta\eta = -1$ : total P.M.  $9''.6$  a century (L.P.M. 5).
6006. Two plates, centre  $+25^\circ$ , R.A.  $12^h 4^m$ , epochs 1893.3 and 1909.3, give  $\Delta\xi = +5$  and  $\Delta\eta = +2$ : total P.M.  $10''.2$  a century (L.P.M. 5).
6010. Two plates, centre  $+25^\circ$ , R.A.  $12^h 4^m$ , epochs 1893.3 and 1909.3, give  $\Delta\xi = 0$  and  $\Delta\eta = -5$ : total P.M.  $9''.5$  a century (L.P.M. 5).
6020. Two plates, centre  $+25^\circ$ , R.A.  $12^h 4^m$ , epochs 1893.3 and 1909.3, give  $\Delta\xi = -6$  and  $\Delta\eta = 0$ : total P.M.  $11''.3$  a century (L.P.M. 5).
6023. Boss' P.G.C. 3180 (Brad. 1630, Paris 14912, Lal. 22876) gives P.Ms.  $-0^s.0037$  and  $-0''.038$ .
6048. Rejected at Cambridge; R.A.  $14^s$  too small. See List E.
6054. Boss' P.G.C. 3198 gives P.Ms.  $-0^s.0035$  and  $+0''.030$ .
6061. Küstner 151 gives P.Ms.  $-0^s.0032$  and  $-0''.012$ .
6067. Boss' P.G.C. 3209 (Brad. 1646, Paris 15088, Lal. 23080, Cinc. xii. 704, xiii. 1100) gives P.Ms.  $-0^s.0151$  and  $-0''.142$ .
6070. Paris 15100 (Lal. 23118) gives P.Ms.  $-0^s.0098$  and  $.000$ .
6071. Boss' P.G.C. 3214 gives P.Ms.  $-0^s.0052$  and  $-0''.119$ .
- 6072, 6073. P.M. in Cinc. xiv. 1007, 1008,  $.0000$ , and  $-0''.141$ . Double,  $\beta$  6134 ( $\Sigma$  1633), distance  $8''.74$ , mags. 7.1 and 7.2. Measured as two stars on four Oxford plates. In  $+27^\circ 29'13.9$ ,  $29'14.0$ ;  $+27^\circ 29'34.6$ ,  $29'34.7$ ; and  $+28^\circ 34'59.7$ ,  $34'59.8$ .
6079. Two plates, centre  $+25^\circ$ , R.A.  $12^h 12^m$ , epochs 1899.3 and 1910.0 give  $\Delta\xi = -13$  and  $\Delta\eta = +5$ : total P.M.  $25''.9$  a century; also two plates, centre  $+25^\circ$ , R.A.  $12^h 20^m$ , epochs 1893.3 and 1910.0, give  $\Delta\xi = -13$  and  $\Delta\mu = +5$ : total P.Ms.  $25''.0$  a century (L.P.M. 5). In Cinc. xiv. 1010 (Lal. 23136).
6089. Boss' P.G.C. 3224 (Brad. 1658, Paris 15141, and Lal. 23169) gives P.Ms.  $-0^s.0006$  and  $-0''.014$ .
6102. Boss' P.G.C. 3231 (Brad. 1661, Paris 15182, and Lal. 23211) gives P.Ms.  $-0^s.0017$  and  $-0''.023$ .
6115. Boss' P.G.C. 3240 (Brad. 1665, Paris 15239, and Lal. 23267) gives P.Ms.  $-0^s.0017$  and  $-0''.018$ .
6118. Boss' P.G.C. 3242 ( $\gamma$  Comæ Beren, Brad. 1666, Paris 15251, and Lal. 23279) gives P.Ms.  $-0^s.0066$  and  $-0''.087$ .
6119. Boss' P.G.C. 3244 (Brad. 1667, Paris 15252, and Lal. 23281) gives P.Ms.  $+0^s.0001$  and  $-0''.013$ .
- 6120, 6121. See the note in the Cambridge A.G.C., p. 306. Double,  $\beta$ .G.C. 6174 ( $\Sigma$  1643), distance  $1''.94$ , mags. 8.4, 8.7. Measured as a single star on all Oxford plates; the residuals are given for C. 6121 place. Two plates, centre  $+27^\circ$ , R.A.  $12^h 20^m$ , epochs 1895.3 and 1909.3, give  $\Delta\xi = +4$  and  $\Delta\eta = -11$ : total P.M.  $23''.9$  a century (L.P.M. 3).



LIST D.—*continued*.

 Camb.  
No.

6132. Boss' P.G.C. 3250 (Brad. 1671) gives P.Ms.  $-^{\circ}0021$  and  $-''033$ .
6133. Boss' P.G.C. 3251 (Brad. 1673) gives P.Ms.  $-^{\circ}0014$  and  $-''022$ .
6136. Boss' P.G.C. 3254 (Brad. 1674) gives P.Ms.  $-^{\circ}0018$  and  $-''008$ .
6145. Boss' P.G.C. 3266 (Brad. 1679) gives P.Ms.  $-^{\circ}0008$  and  $-''017$ . Two plates, centre  $+25^{\circ}$ , R.A.  $12^{\text{h}} 28^{\text{m}}$ , epochs 1893·3 and 1910·0, give  $\Delta\xi = -1$  and  $\Delta\eta = +5$ : total P.M.  $9''2$  a century (L.P.M. 5).
6153. Double,  $\beta$ .G.C. 6196 ( $\Sigma$  1651); Oxford  $+27^{\circ} 29528$  and  $29527$ ;  $+28^{\circ} 34908$  and  $34907$ ; the residuals depend upon the first and brighter star; distance  $6''60$ , mags. 8·1 and 9·9.
6158. Cinc. xiv. 1037 (Paris 15404, Lal. 23449) gives P.Ms.  $-^{\circ}0025$  and  $-''148$ .
6164. Boss' P.G.C. 3276 (Brad. 1684) gives P.Ms.  $-^{\circ}0016$  and  $-''007$ .
2641. Two plates, centre  $+25^{\circ}$ , R.A.  $12^{\text{h}} 44^{\text{m}}$ , epochs 1893·3 to 1910·2, give  $\Delta\xi = -8$  and  $\Delta\eta = -12$ : total P.M.  $25''6$  a century (L.P.M. 5). Cinc. xii. 732 gives P.Ms.  $-^{\circ}007$  and  $-''21$ .
6251. Two plates, centre  $+25^{\circ}$ , R.A.  $12^{\text{h}} 44^{\text{m}}$ , epochs 1893·3 and 1910·2, give  $\Delta\xi = +5$  and  $\Delta\eta = -2$ : total P.M.  $9''6$  a century (L.P.M. 5).
6253. Two plates, centre  $+25^{\circ}$ , R.A.  $12^{\text{h}} 44^{\text{m}}$ , epochs 1893·3 and 1910·2, give  $\Delta\xi = -16$  and  $\Delta\eta = -6$ : total P.M.  $30''4$  a century (L.P.M. 5). Also in Cinc. xiv. 1067 (Paris 15763, Lal. 23900).
6256. Boss' P.G.C. 3339 (Brad. 1711) gives P.M.  $-^{\circ}0071$  and  $+''011$ .
6269. Single observation in Cambridge; four observations in the Revision in 1897·6 give  $\Delta$  R.A.  $-0^{\circ}97$  and  $\Delta\delta = +0''4$ .
6271. Two plates, centre  $+25^{\circ}$ , R.A.  $12^{\text{h}} 44^{\text{m}}$ , epochs 1893·3 and 1910·2, give  $\Delta\xi = -5$  and  $\Delta\eta = -1$ : total P.M.  $9''1$  a century (L.P.M. 5).
6272. Boss' P.G.C. 3347 (Brad. 1715) gives P.Ms.  $-^{\circ}0012$  and  $-''026$ .
6275. Two plates, centre  $+25^{\circ}$ , R.A.  $12^{\text{h}} 44^{\text{m}}$ , epochs 1893·3 and 1910·2, give  $\Delta\xi = -5$  and  $\Delta\eta = -3$ : total P.M.  $10''3$  a century (L.P.M. 5).
6280. Cinc. xiv. 1076 (Paris 15859 and Lal. 24014) gives P.Ms.  $-^{\circ}0173$  and  $-''104$ .
6314. Double; Cambridge observed *s.p.* In Oxford  $+27^{\circ} 30291$  and  $30292$ ;  $+28^{\circ} 36083$  and  $36084$ ; the first in each pair refers to the Camb. 6314. Also  $\beta$ .G.C. 6330 ( $\Sigma$  1700), distance  $7''07$ , mags. 8·2 and 10·0.
6354. Double; Cambridge observed *s.f.* In Oxford  $+29^{\circ} 33495$  and  $33494$ ;  $+30^{\circ} 29326$  and  $29325$ ; the first in each pair refers to Camb. 6354. Not in  $\beta$ .G.C.
6356. Boss' P.G.C. 3401 (Brad. 1743) gives P.Ms.  $+^{\circ}0019$  and  $-''085$ .
6360. Single observation in Cambridge; three observations in the Revision in 1897·3 give  $\Delta$  R.A.  $-0^{\circ}56$  and  $\Delta\delta = -1''4$ .
6387. Two plates, centre  $+25^{\circ}$ , R.A.  $13^{\text{h}} 8^{\text{m}}$ , epochs 1893·3 and 1910·2, give  $\Delta\xi = +3$  and  $\Delta\eta = -5$ : total P.M.  $10''3$  a century (L.P.M. 5).
6390. Fundamental star,  $\beta$  Coronæ Bor. Boss' P.G.C. 3424 (Brad. 1755) gives P.Ms.  $-^{\circ}0604$  and  $+''875$ ; also Cinc. xii. 754.
6416. Paris 16263 (Lal. 24643) gives P.Ms.  $+^{\circ}0129$  and  $-''437$ .
6430. Two Plates, centre  $+25^{\circ}$ , R.A.  $13^{\text{h}} 16^{\text{m}}$ , epochs 1893·3 and 1910·2, give  $\Delta\xi = -16$  and  $\Delta\eta = +4$ : total P.M.  $29''2$  a century; also two plates, centre  $+26^{\circ}$ , R.A.  $13^{\text{h}} 12^{\text{m}}$ , epochs 1893·3 and 1908·2, give  $\Delta\xi = -14$  and  $\Delta\eta = +7$ : total P.M.  $31''4$  (L.P.M. 5).
6436. Cambridge, R.A. is  $1^{\circ}$  too late.
6514. Two plates, centre  $+25^{\circ}$ , R.A.  $13^{\text{h}} 24^{\text{m}}$ , epochs 1893·3 and 1910·2, give  $\Delta\xi = +1$  and  $-14$ : total P.M.  $24''8$  a century; and two plates in  $+25^{\circ}$ , R.A.  $13^{\text{h}} 32^{\text{m}}$  give total P.M. of  $19''9$  a century (L.P.M. 5); also Cinc. xiv. 1161 gives P.Ms.  $+^{\circ}0085$  and  $-''189$ .
6520. Double; Cambridge observed *n.p.* In  $\beta$ .G.C. 6531 ( $\Sigma$  1759). In Oxford  $+27^{\circ} 31033$  and  $31034$ ;  $+28^{\circ} 37081$  and  $37082$ ; and  $+29^{\circ} 34007$  and  $34008$ .
6522. Only on one Oxford plate in Zone  $+25^{\circ}$ .
6538. Cinc. xiv. 1172 gives P.Ms.  $-^{\circ}0157$  and  $-''000$ ; also in Paris 16648 (Lal. 25183).
6552. Two plates, centre  $+25^{\circ}$ , R.A.  $13^{\text{h}} 32^{\text{m}}$ , epochs 1893·3 and 1910·2, give  $\Delta\xi = +3$  and  $\Delta\eta = +6$ : total P.M.  $11''9$  a century (L.P.M. 5).
6582. Two plates, centre  $+25^{\circ}$ , R.A.  $13^{\text{h}} 40^{\text{m}}$ , epochs 1893·3 and 1910·2, give  $\Delta\xi = -6$  and  $\Delta\eta = 0$ : total P.M.  $10''6$  a century (L.P.M. 5).
6599. Boss' P.G.C. 3555 (Brad. 1808) gives P.Ms.  $-^{\circ}0014$  and  $-''067$ .
6607. Cinc. xiii. 1197 (also Cinc. xii. 787, Paris 16923, and Lal. 25475 mean) gives P.Ms.  $-^{\circ}0355$  and  $-''061$ . Cambridge Catalogue says, "close double; middle."  $\beta$ .G.C. 6641 ( $\Sigma$  1785), distance  $3''49$ , mags. 7·2 and 7·5. Measured as one star in Oxford  $+27^{\circ} 31381$  and  $+28^{\circ} 37562$ .
6624. Two plates, centre  $+25^{\circ}$ , R.A.  $13^{\text{h}} 48^{\text{m}}$ , epochs 1893·3 to 1910·2, give  $\Delta\xi = -6$  and  $+3$ : total P.M.  $11''9$  a century (L.P.M. 5).
6636. Boss' P.G.C. 3591 gives P.Ms.  $-^{\circ}0090$  and  $+''014$ .



LIST D.—*continued*.Camb.  
No.

6651. Two plates, centre  $+25^\circ$ , R.A.  $13^h 48^m$ , epochs 1893.3 and 1910.2, give  $\Delta\xi = -10$  and  $\Delta\eta = +3$ : total P.M.  $18''.4$  a century (L.P.M. 5). Also two plates, centre  $+26^\circ$ , R.A.  $13^h 52^m$ , epoch 1893.3 and 1908.4, give  $\Delta\xi = -9$  and  $\Delta\eta = +4$ : total P.M.  $19''.0$  a century (L.P.M. 2).
6657. Boss' P.G.C. 3601 (Brad. 1826, Paris 17096, and Lal. 25658) gives P.Ms.  $+''0023$  and  $-''057$ .
6659. Two plates, centre  $+25^\circ$ , R.A.  $13^h 48^m$ , epochs 1893.3 and 1910.2, give  $\Delta\xi = +2$  and  $-10$ : total P.M.  $18''.1$  a century (L.P.M. 5). Two plates, centre  $+26^\circ$ , R.A.  $13^h 52^m$ , epochs 1893.3 and 1908.4, give  $\Delta\xi = +4$  and  $\Delta\eta = -8$ : total P.M.  $17''.8$  a century (L.P.M. 2).
6671. The Cambridge Catalogue says, "Close double; north following."  $\beta$ .G.C. 6693 ( $\Sigma$  1793); distance  $4''39$ , mags. 7.0 and 8.0. Measured as one star in  $+26^\circ$  (plate 2667) 34351 and  $+27^\circ$  (plate 1022) 31522.
6682. Two plates, centre  $+26^\circ$ , R.A.  $13^h 52^m$ , epochs 1893.3 and 1908.4, give  $\Delta\xi = +7$  and  $\Delta\eta = -4$ : total P.M.  $16''.2$  a century (L.P.M. 2).
6688. Two plates, centre  $+25^\circ$ , R.A.  $13^h 56^m$ , epochs 1893.3 and 1910.2, give  $\Delta\xi = 0$  and  $\Delta\eta = +5$ : total P.M.  $8''.9$  a century (L.P.M. 5).
6689. Fundamental star. Boss' P.G.C. 3613 (Brad. 1830) gives P.M.  $-''0060$  and  $+''003$ .
6703. Paris 17275 (Lal. 25873) gives P.Ms.  $''0000$  and  $-''122$ .
6723. Double; Lick Observatory Bulletin, No. 29, distance  $0''.62$ , mags. 8.6 and 9.6. Measured as one star on the Oxford plates,  $+25^\circ 42580$  and  $+26^\circ 34538$ .
6735. The Cambridge Catalogue says, "Close double; preceding."  $\beta$ .G.C. 6746 ( $\Sigma$  1808), distance  $2''82$ , mags. 8.0 and 9.0. Single in Oxford Zones,  $+26^\circ 34973$ ;  $+27^\circ 31784$ ; and  $+28^\circ 38205$ .
6736. Fundamental star. Boss' P.G.C. 3635 (Brad. 1839) gives P.Ms.  $-''0017$  and  $-''072$ .
6746. The Cambridge Catalogue says, "Double; north preceding."  $\beta$ .G.C. 6758 ( $O\Sigma$  277, Lal. 26063), distance A.B.  $0''.42$ , mags. 7.8 and 8.0, this is the Cambridge star; C. is mag. 9.3, distance  $14''2$ .
6756. The Cambridge Catalogue says, "Very close double."  $\beta$ .G.C. 6772 ( $\Sigma$  1816), distance  $1''87$ , mags. 7.0 and 7.1. Single image in Oxford  $+29^\circ 35209$  and  $+30^\circ 31348$ .
6814. Two plates, centre  $+25^\circ$ , R.A.  $14^h 20^m$ , epochs 1899.4 to 1910.2, give  $\Delta\xi = -5$  and  $\Delta\eta = +2$ : total P.M.  $15''.0$  a century (L.P.M. 5).
6848. Two plates, centre  $+25^\circ$ , R.A.  $14^h 28^m$ , epochs 1893.3 and 1909.1, give  $\Delta\xi = -10$  and  $\Delta\eta = +9$ : total P.M.  $25''.7$  a century (L.P.M. 5).
6863. Single observation in Cambridge; three observations in the Revision in 1897.7, give  $\Delta$  R.A.  $= -0''.62$  and  $\Delta\delta = +0''.6$ .
6873. Boss' P.G.C. 3719 gives P.Ms.  $-''0055$  and  $-''048$ .
6900. Two plates, centre  $+25^\circ$ , R.A.  $14^h 36^m$ , epochs 1893.3 and 1909.1, give  $\Delta\xi = +7$  and  $\Delta\eta = -6$ : total P.M.  $16''.7$  a century (L.P.M. 5).
6912. This is the Variable star R. Boötis. In Oxford  $+27^\circ 32399$ , photo. mag. 7.3 (1896, May 11), 32591 photo. mag. 7.7 (1896, May 11), and  $+28^\circ 38919$  photo. mag. 8.7 (1901, May 14).
6914. Two plates, centre  $+29^\circ$ , R.A.  $14^h 37^m$ , epochs 1896.3 and 1906.4, give  $\Delta\xi = -7$  and  $+2$ : total P.M.  $21''.6$  a century (L.P.M. 4).
6937. Two plates, centre  $+29^\circ$ , R.A.  $14^h 37^m$ , epochs 1896.3 and 1906.4, give  $\Delta\xi = -4$  and  $\Delta\eta = -6$ : total P.M.  $21''.3$  a century (L.P.M. 4).
6950. Boss' P.G.C. 3761 (Brad. 1883, Paris 18142, Lal. 26853) gives P.Ms.  $-''0008$  and  $-''021$ .
6957. This is the Double star  $\epsilon$  Boötis,  $\beta$ .G.C. 6993 ( $\Sigma$  1877), distance  $2''64$ , mags. 3.0 and 6.3. No note in the Cambridge Catalogue as to what has been observed. Measured as a single star in the Oxford Zones  $+27^\circ 32617$ ,  $+27^\circ 32772$ , and  $+28^\circ 39145$ , diameter of the images  $27''$  to  $33''$ . Boss' P.G.C. 3771 gives P.Ms.  $-''0036$  and  $+''008$ .
6963. Two plates, centre  $+29^\circ$ , R.A.  $14^h 46^m$ , epochs 1896.3 and 1906.4, give  $\Delta\xi = -6$  and  $\Delta\eta = -1$ : total P.M.  $18''.1$  a century (L.P.M. 4).
6976. Two plates, centre  $+25^\circ$ , R.A.  $14^h 44^m$ , epochs 1893.3 to 1909.1, give  $\Delta\xi = -6$  and  $\Delta\eta = +6$ : total  $16''.1$  a century (L.P.M. 5).
6982. The Cambridge Catalogue says, "Double; south following." Not in  $\beta$ .G.C. In Oxford  $+26^\circ 35908$  and  $35907$ ;  $+26^\circ 36153$  and  $36152$ ; and  $27^\circ 32751$  and  $32750$ ; distance  $10''$ . The first star given is *s.f.*
6989. Boss' P.G.C. 3788 gives P.Ms.  $+''0017$  and  $-''009$ .
7013. Two plates, centre  $+27^\circ$ , R.A.  $14^h 52^m$ , epochs 1895.3 and 1909.3, give  $\Delta\xi = -9$  and  $\Delta\eta = -12$ : total P.M.  $32''.3$  a century (L.P.M. 3).
7037. Paris 18470 (Lal. 27299) gives P.Ms.  $+''0172$  and  $''000$ .
7050. Boss' P.G.C. 3834 ( $\omega$  Boötis) gives P.Ms.  $-''0005$  and  $-''058$ .
7067. Fundamental star,  $\psi$  Boötis. Boss' P.G.C. 3842 gives P.Ms.  $-''0133$  and  $-''020$ .
7084. Boss' P.G.C. 3855 (Brad. 1924,  $c$  Boötis, Cinc. xii. 863, xiii. 1272, Paris 18702, and Lal. 27570) gives P.Ms.  $+''0138$  and  $-''183$ . Two plates, centre  $+25^\circ$ , R.A.  $15^h 0^m$ , epochs 1898.3 and 1909.1, give  $\Delta\xi = +6$  and  $\Delta\eta = -1$ : total P.M.  $18''.8$  a century (L.P.M. 5). See paper in the *Mon. Not., R.A.S.*, lvi., p. 471.



## LIST D.—continued.

 Camb.  
No.

7086. Cinc. xiv. 1341 (Cinc. xii. 864 and xiii. 1273) gives P.Ms.  $-^{\circ}059$  and  $+^{\circ}48$ . Two plates, centre  $+25^{\circ}$ , R.A.  $15^h 0^m$ , epochs 1898.3 and 1909.1, gives  $\Delta\xi = -28$  and  $\Delta\eta = +16$ : total P.M.  $99^{\circ}5$  a century (L.P.M. 5). See the papers in the *Mon. Not., R.A.S.*, lvi. 471. The Cambridge place used for the residuals is that given in the Errata, p. 306, and not that on p. 143. See List E.
7091. Boss' P.G.C. 3859 (Brad. 1926) gives P.Ms.  $^{\circ}0000$  and  $-^{\circ}029$ .
7093. Boss' P.G.C. 3860 gives P.Ms.  $-^{\circ}0012$  and  $+^{\circ}006$ .
7125. Boss' P.G.C. 3883 ( $\chi$ -Boötis, Paris 18905, and Lal. 27820) gives P.Ms.  $-^{\circ}0058$  and  $+^{\circ}022$ .
7136. Two plates, centre  $+25^{\circ}$ , R.A.  $15^h 8^m$ , epochs 1893.4 to 1909.1, give  $\Delta\xi = -12$  and  $\Delta\eta = -3$ : total P.M.  $23^{\circ}7$  a century (L.P.M. 5).
7146. Noted in the Cambridge Revision as "v. ft." The photo. mags. deduced from the Oxford plates are for  $+29^{\circ} 37103$  (1901, May 20),  $10^{\circ}9$ ;  $+30^{\circ} 33415$  (1902, March 12),  $10^{\circ}3$ ;  $+30^{\circ} 33663$  (1902, March 12),  $10^{\circ}2$ ; and  $+31^{\circ} 33417$  (1903, April 22),  $11^{\circ}8$ .
7149. Two plates, centre  $+25^{\circ}$ , R.A.  $15^h 16^m$ , epochs 1893.4 and 1909.1, give  $\Delta\xi = -5$  and  $\Delta\eta = 0$ : total P.M.  $9^{\circ}5$  a century (L.P.M. 5).
7150. Cinc. xiv. 1358 (Paris 18972, Lal. 27943) gives P.Ms.  $+^{\circ}0064$  and  $+^{\circ}110$ .
7155. Cinc. xiii. 1284 (Cinc. xii. 873, Paris 18991, Lal. 27958) gives P.Ms.  $-^{\circ}0386$  and  $-^{\circ}086$ . Two plates, centre  $+25^{\circ}$ , R.A.  $15^h 16^m$ , epochs 1893.4 and 1909.1, give  $\Delta\xi = -29$  and  $\Delta\eta = -6$ : total P.M.  $56^{\circ}5$  a century (L.P.M. 5).
7159. Single observation in Cambridge; three observations in the Revision in 1897.7 give  $\Delta$  R.A.  $= -0^{\circ}49$  and  $\Delta\delta = 0^{\circ}6$ .
7162. Boss' P.G.C. 3908 ( $\alpha$  Coronæ Bor. and Cinc. xiv. 1364) gives P.Ms.  $-^{\circ}0096$  and  $-^{\circ}058$ .
7169. Two plates, centre  $+25^{\circ}$ , R.A.  $15^h 16^m$ , epochs 1893.4 and 1909.1, give  $\Delta\xi = -3$  and  $\Delta\eta = -8$ : total P.M.  $16^{\circ}3$  a century (L.P.M. 5).
7175. Single observation in Cambridge; three observations in the Revision in 1897.8 give  $\Delta$  R.A.  $= -0^{\circ}60$  and  $\Delta\delta = +0^{\circ}8$ .
7186. Single observation in Cambridge; three observations of "f. of 2" in the Revision in 1898.1, give  $\Delta$  R.A.  $= -0^{\circ}24$  and  $\Delta\delta = +2^{\circ}1$ . In Oxford  $+29^{\circ} 37368$  (1901, May 20),  $10^{\circ}4$ , the *s.p.* star (37367) is  $10^{\circ}0$ ; and  $30^{\circ} 33628$  (1901, March 12),  $10^{\circ}3$ , the *s.p.* star 33627 is  $9^{\circ}7$ .
7192. Single observation in Cambridge; three observations in the Revision, noted as "v. ft.," in 1897.4 give  $\Delta$  R.A.  $= -0^{\circ}36$  and  $\Delta\delta = -1^{\circ}0$ . The Oxford photo. mags. are  $+25^{\circ} 45286$  (1893, June 12),  $10^{\circ}1$ ;  $+26^{\circ} 36935$  (1900, April 20),  $10^{\circ}0$ .
7207. Boss' P.G.C. 3938 gives P.Ms.  $+^{\circ}0002$  and  $-^{\circ}039$ .
7208. Fundamental star,  $\beta$  Coronæ Bor. (Paris 19205, Lal. 28232). Boss' P.G.C. 3940 gives P.Ms.  $-^{\circ}0133$  and  $+^{\circ}076$ .
7221. The Cambridge Catalogue says, "Close double." In  $\beta$ .G.C. 7295 ( $\Sigma$  1950); distance  $3^{\circ}21$ , mags. 6.7 and 8.2. Single image in Oxford  $+25^{\circ} 45320$  (1893, June 12) and  $+26^{\circ} 37275$  (1895, June 5).
7231. Uncertain if P.M.; only on one Oxford plate, No. 426 in  $+25^{\circ}$ .
7249. Single observation in Cambridge; three observations in the Revision in 1897.7 give  $\Delta$  R.A.  $= -0^{\circ}44$  and  $\Delta\delta = -4^{\circ}1$ .
7253. Fundamental star,  $\alpha$  Coronæ. Boss' P.G.C. 3961 gives P.Ms.  $+^{\circ}0090$  and  $-^{\circ}102$ .
7256. Two plates, centre  $+25^{\circ}$ , R.A.  $15^h 32^m$ , epochs 1893.4 and 1909.4, give  $\Delta\xi = +6$  and  $\Delta\eta = -4$ : total P.M.  $13^{\circ}8$  a century (L.P.M. 5).
7260. Apparently the Cambridge R.A. is  $1^s$  too large, not re-observed in the Revision. Two plates, centre  $+25^{\circ}$ , R.A.  $15^h 32^m$ , epochs 1893.4 and 1909.1, give  $\Delta\xi = +3$  and  $\Delta\eta = +6$ : total P.M.  $12^{\circ}8$  a century (L.P.M. 5).
7301. Fundamental star,  $\gamma$  Coronæ Borealis. Boss' P.G.C. 3998 (Brad. 1991, Paris 19567, Lal. 28684) gives P.Ms.  $-^{\circ}0075$  and  $+^{\circ}030$ . The star is double,  $\beta$ .G.C., 7368 ( $\Sigma$  1967), distance  $0^{\circ}72$ , mags. 4.0 and 7.0; single on Oxford plates 785, 1514, and 2570.
7309. Cinc. xiv. 1401 (Paris 19583, Lal. 28711) gives P.Ms.  $+^{\circ}0093$  and  $^{\circ}000$ .
7350. Variable, R. Coronæ Bor., mag. 6 to 13. Boss' P.G.C. 4017 gives P.Ms.  $+^{\circ}0003$  and  $-^{\circ}018$ .
7351. On one Oxford plate, No. 1547, in Zone  $+25^{\circ}$ .
7355. Boss' P.G.C. 4024  $\delta$  Cor. Bor. (Brad. 2010, Paris 19713, Lal. 28867) gives P.Ms.  $-^{\circ}0055$  and  $-^{\circ}081$ .
7381. Single observation in Cambridge, three observations in the Revision in 1897.7 give  $\Delta$  R.A.  $= -0^{\circ}45$  and  $\Delta\delta = +1^{\circ}4$ .
7404. Fundamental star,  $\epsilon$  Coronæ Borealis. Boss' P.G.C. 4063 gives P.Ms.  $-^{\circ}0064$  and  $-^{\circ}068$ . There is a faint companion,  $\beta$ .G.C. 7453, distance  $2^{\circ}17$ , mag. 12; single on Oxford plates 1437 and 1816.



NOTES.

LIST D.—*continued*.

Camb.  
No.

7413. Probably red or variable; on plate 1816 (1901, May 20)  $+28^{\circ} 41340$ , photo. mag. 11.5; not on plates 766 and 1437. Professor E. C. Pickering wrote, 1899, Dec. 27: "In reply to your letter I have had a number of photographs of [B.D.]  $+27^{\circ} 2561$  examined. These plates were taken with the 8-inch Draper Doublet on March 21, 1890; May 25, 1891; May 31, 1892; June 12, 1892; July 7 and 8, 1892; June 30, 1893; March 23, 1894; June 13, 1894; Feb. 26, 1896; June 25, 1897; June 17, 1898; and Aug. 18, 1899. The exposure was generally 10 min. On all it appears faint but of so nearly the same brightness that we have failed to detect any variation. Probably the star is red, and therefore faint photographically."
7416. Single observation in Cambridge; three observations in the Revision in 1897.8 give  $\Delta R.A. = -0^s.60$  and  $\Delta\delta = +0''.9$ .
7420. Large P.Ms. The Oxford plates give  $\Delta\xi$  and  $\Delta\eta -46$  and  $+25$  (1896.3),  $-54$  and  $+28$  (1899.4), and  $-61$  and  $+29$  (1901.4); mag. 8.0; not in Boss' P.G.C.
7433. Variable T Coronæ; *Nova* Coronæ of 1868, mag. 2 to 9.5; measured on five Oxford plates.
7434. Uncertain if P.M.; depends on one plate in Zone  $+25^{\circ}$ .
7439. Single observation in Cambridge; three observations in the Revision in 1897.8 give  $\Delta R.A. = -0^s.51$  and  $\Delta\delta = +1''.8$ .
7446. Double; Cambridge observed larger, *n.f.* This is Oxford  $+29^{\circ} 38236$ , the fainter star is 38235; and  $+28^{\circ} 41446$ , the fainter star is 41433.
7453. Boss' P.G.C. 4080 (*u* Coronæ Bor.) gives the P.Ms.  $-0^s.0029$  and  $-0^s.024$ .
7459. Single observation in Cambridge; three observations in the Revision in 1897.7 give  $\Delta R.A. = +0^s.17$  and  $\Delta\delta = -2''.3$ .
7468. Cinc. xiv. 1423 (Paris 20088, Lal. 29307-8) gives P.Ms. in R.A.  $-0^s.393$  and  $+0^s.717$ . Two plates at Oxford, centre  $+25^{\circ}$ , R.A.  $16^h 4^m$ , epochs 1893.4 and 1909.1, give  $\Delta\xi = -27$  and  $\Delta\eta = +40$ : total P.M.  $92''.2$  a century (L.P.M. 5).
7478. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta R.A. = -0^s.73$  and  $\Delta\delta = -0''.1$ .
7486. Variable. See Harvard Circular, No. 133 (and *A.N.* 4218).
7490. Double; Cambridge observed the brighter.  $\beta$ .G.C. 7516 ( $\Sigma$  2011), distance  $2''.45$ , mags. 7.2 and 9.8. In Oxford  $+29^{\circ} 38489$  and  $+30^{\circ} 35332$ , as a single star.
7548. Double; Cambridge observed the brighter.  $\beta$ .G.C. 7556 ( $\Sigma$  2029), distance  $6''.29$ , mags., 7.5 and 9.3. In Oxford  $+28^{\circ} 42120$  and  $42119$ ;  $+29^{\circ} 38468$  and  $38467$ .
7566. Boss' P.G.C. 4146 (*v* Coronæ Bor.) gives P.Ms.  $+0^s.0008$  and  $-0^s.026$ .
7571. Single observation in Cambridge. There is no star near on the Oxford plates that will agree with the Cambridge place, which is, for 1875.0,  $16^h 11^m$ ,  $57^s.57$ ,  $+26^{\circ} 9' 34''.7$ . Three observations in the Revision in 1897.8 give  $\Delta R.A. = -0^s.06$  and  $\Delta\delta = -1''.7$ , mag. 9.0. Probably variable, or red colour.
7577. Boss' P.G.C. 4154 (Brad. 2080) gives P.Ms.  $-0^s.0002$  and  $-0^s.009$ .
7595. Single observation in Cambridge; three observations in the Revision in 1897.8 give  $\Delta R.A. = -1^s.13$  and  $\Delta\delta = +0''.2$ .
7620. The place used for the residuals is that given in the Appendix to the Cambridge Catalogue, p. 299, and not that given on p. 154. See List E.
7639. Only comes within the area of one plate in  $+25^{\circ}$  Zone.
7664. Two plates, centre  $+25^{\circ}$ , R.A.  $16^h 28^m$ , epochs 1893.4 and 1909.6, give  $\Delta\xi = -7$  and  $\Delta\eta = +3$ : total P.M.  $14''.2$  a century (L.P.M. 5).
7700. Single observation in Cambridge; three observations in the Revision in 1897.8 give  $\Delta R.A. = -0^s.37$  and  $\Delta\delta = -0''.9$ .
7701. Single observation in Cambridge; three observations in the Revision in 1897.8 give  $\Delta R.A. = -0^s.30$  and  $\Delta\delta = -0''.8$ .
7703. Two plates, centre  $+25^{\circ}$ , R.A.  $16^h 28^m$ , epochs 1893.4 and 1909.6, give  $\Delta\xi = +15$  and  $\Delta\eta = -5$ : total  $29''.4$  a century (L.P.M. 5).
7754. Cambridge Catalogue has a note, "Close double; middle." As a single star in Oxford  $+27^{\circ} 35776$  and  $+28^{\circ} 42831$ . Not in  $\beta$ .G.C.
7757. Cambridge Catalogue has a note, "Close double; *s.p.*" The two stars are Oxford  $+29^{\circ} 39283$  and  $39284$ ;  $+30^{\circ} 36889$  and  $36890$ . It is  $\beta$ .G.C. 7712, distance  $7''.23$ , mags. 10.0 and 10.5.
7771. Boss' P.G.C. 4247 (Brad. 2125, Paris 21017, Lal. 30427) gives P.Ms.  $-0^s.0002$  and  $-0^s.049$ .
7778. Single observation in Cambridge; three observations in the Revision in 1897.8 give  $\Delta R.A. = +0^s.32$  and  $\Delta\delta = +1''.0$ .
7798. Cambridge Catalogue has a note, "Double; *n.p.*"  $\beta$ .G.C. 7749 ( $\Sigma$  2095), distance  $4''.96$ , mags. 7.0 and 9.0; single star in Oxford  $+28^{\circ} 43008$  and  $+29^{\circ} 39599$ .
7808. Double in Berlin (B) A.G.C. Not in  $\beta$ .G.C. Single in Oxford  $+25^{\circ} 47868$ .



## LIST D.—continued.

- Camb.  
 No.
7827. Cambridge Catalogue has a note, "Close double; *s.f.*" In  $\beta$ .G.C. 7764, A.B. distance  $4''.90$ , mags. 8.7 and 8.7, A.C.  $25''.42$ , mag. 11.0. The three stars, in the order of A.B.C., are in the Oxford Zones  $+25^\circ 47948$ ,  $47947$ , and  $47946$ ;  $+26^\circ 39801$ ,  $39800$ , and  $39799$ ;  $+26^\circ 40088$ ,  $40087$ , and  $40086$ .
7838. Boss' P.G.C. 4279 (Brad. 2142) gives P.Ms.  $-''0053$  and  $+''075$ .
7855. Boss' P.G.C. 4286 (Brad. 2145, Paris 21262, Lal. 30692) gives P.Ms.  $-''0007$  and  $-''007$ .
7861. Boss' P.G.C. 4294 (Brad. 2147) gives P.Ms.  $+''0012$  and  $+''002$ .
7891. Boss' P.G.C. 4310 (Brad. 2154) gives P.Ms.  $+''0009$  and  $-''029$ .
7904. Double star; the brighter star, or as one mass, has only been observed at Cambridge. In Oxford  $+27^\circ 36286$  and  $36285$ ;  $+28^\circ 43188$  and  $43187$ ; only one star was measured in  $+28^\circ 43506$ . The residuals given are for the brighter star. Not in  $\beta$ .G.C.
7913. Boss' P.G.C. 4316 (Brad. 2157) gives P.Ms.  $+''0006$  and  $-''001$ .
7944. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= -1''.52$  and  $\Delta\delta = -0''.6$ .
7956. Two plates, centre  $+25^\circ$ , R.A.  $17^h 0^m$ , epochs 1893.4 and 1910.3, give  $\Delta\xi = 0$  and  $\Delta\eta = +5$ : total P.M.  $8''.9$  a century (L.P.M. 5).
7959. Two plates, centre  $+25^\circ$ , R.A.  $17^h 0^m$ , epochs 1893.4 and 1910.3, give  $\Delta\xi = +4$  and  $\Delta\eta = +6$ : total  $12''.8$  a century (L.P.M. 5).
7963. Single observation in Cambridge; three observations in the Revision in 1898.2 give  $\Delta$  R.A.  $= -0''.28$  and  $\Delta\delta = +4''.2$ .
7969. Two plates, centre  $+25^\circ$ , R.A.  $17^h 0^m$ , epochs 1893.4 and 1910.3, give  $\Delta\xi = -2$  and  $\Delta\eta = -8$ : total P.M.  $14''.6$  a century (L.P.M. 5).
7989. The Cambridge Catalogue has a note, "Double; *n.f.*" In  $\beta$ .G.C. 7858 ( $\Sigma$  2120), distance  $3''.83$ , mags. 6.4 and 9.2. Oxford  $+28^\circ 43578$  and  $43577$ ;  $+29^\circ 40231$  and  $40230$ .
8020. Two plates, centre  $+25^\circ$ , R.A.  $17^h 0^m$ , epochs 1893.4 and 1910.3, give  $\Delta\xi = 0$  and  $\Delta\eta = -7$ : total P.M.  $12''.4$  a century (L.P.M. 5).
8033. Two plates, centre  $+25^\circ$ , R.A.  $17^h 0^m$ , epochs 1893.4 and 1910.3, give  $\Delta\xi = -5$  and  $\Delta\eta = +1$ : total P.M.  $9''.0$  a century (L.P.M. 5).
8078. The Cambridge Catalogue has the note, "Double; *s.p.*"  $\beta$ .G.C. 7915, distance  $5''.33$ , mags. 9.2 and 10.5. In Oxford  $+28^\circ 43968$  and  $43967$ ; also  $+29^\circ 40649$ , as a single star.
8087. Fundamental star,  $\delta$  Herculis. Boss' P.G.C. 4376 (Cinc. xii. 980) gives P.Ms.  $-''0018$  and  $-''163$ . See Boss' P.G.C. Appendix II. 275.
8104. The Cambridge Catalogue says, "Double; north."  $\beta$ .G.C. 7935, A.B.  $= 0''.46$ , mags. 8.3 and 9.3; Camb.  $=$  A.B./2; A.B. is single on Oxford Plates,  $+26^\circ 42058$ , C. is  $42057$ ;  $+27^\circ 36760$ , C. is  $36761$ ;  $+27^\circ 37011$ , C. is  $37010$ . A.B./2 and C.  $= \Sigma$  2145.
8107. Single observation in Cambridge; four observations in the Revision in 1898.3 give  $\Delta$  R.A.  $= -1''.22$  and  $\Delta\delta = +0''.7$ .
8114. Two plates, centre  $+25^\circ$ , R.A.  $17^h 16^m$ , epochs 1893.5 and 1910.3, give  $\Delta\xi = -2$  and  $\Delta\eta = -6$ : total P.M.  $11''.2$  a century (L.P.M. 5).
8124. Two plates, centre  $+25^\circ$ , R.A.  $17^h 16^m$ , epochs 1893.5 and 1910.3, give  $\Delta\xi = +1$  and  $\Delta\eta = +5$ : total P.M.  $9''.1$  a century (L.P.M. 5).
8128. Two plates, centre  $+25^\circ$ , R.A.  $17^h 16^m$ , epochs 1893.5 and 1910.3, give  $\Delta\xi = 0$  and  $\Delta\eta = +5$ : total P.M.  $8''.9$  a century (L.P.M. 5).
8132. Boss' P.G.C. 4393 gives P.Ms.  $+''0032$  and  $-''015$ .
8145. Boss' P.G.C. 4401 gives P.Ms.  $+''0014$  and  $-''019$ .
8152. Two plates, centre  $+25^\circ$ , R.A.  $17^h 16^m$ , epochs 1893.5 and 1910.3, give  $\Delta\xi = +2$  and  $\Delta\eta = +6$ : total P.M.  $11''.2$  a century (L.P.M. 5).
8165. Two plates, centre  $+25^\circ$ , R.A.  $17^h 16^m$ , epochs 1893.5 and 1910.3, give  $\Delta\xi = +5$  and  $\Delta\eta = -9$ : total P.M.  $18''.3$  a century (L.P.M. 5); also Cinc. xiv. 1523, Paris 22035, and Lal. 31662.
8194. The Cambridge Catalogue says "Double; *s.p.*"  $\beta$ .G.C. 8017 ( $\Sigma$  2165), distance  $6''.71$ , mags. 7.0 and 8.5. Oxford  $+29^\circ 41177$  and  $41178$ ;  $+30^\circ 40942$  and  $40943$ .
- 8207 and 8208. Both stars have large P.Ms. in Cambridge, p. (9); not in Boss' P.G.C., Cincinnati, or Paris P.Ms.
8236. Close double:  $\beta$ .G.C. 8044, distance  $0''.55$ , mags. 9.5 and 9.9. Oxford  $+29^\circ 41611$ ,  $+30^\circ 40914$ , measured as a single star; there is a 12th mag. star,  $+29^\circ 41633$  and  $+30^\circ 40913$ ,  $20''$  distant, *n.f.*
8247. Boss' P.G.C. 4438 ( $\lambda$  Herculis) gives P.Ms.  $+''0011$  and  $+''014$ .
8254. Single observation in Cambridge; four observations in the Revision in 1898.0 give  $\Delta$  R.A.  $= +0''.18$  and  $\Delta\delta = +3''.9$ .
8260. Boss' P.G.C. (Brad. 2214) gives P.Ms.  $+''0007$  and  $+''024$ .
8337. Single observation in Cambridge; three observations in the Revision in 1897.9 give  $\Delta$  R.A.  $= -0''.32$  and  $\Delta\delta = -0''.7$ .



NOTES.

LIST D.—*continued*.

Camb.  
No.

8350. The Cambridge Catalogue has a note, "Double; *s.p.*"  $\beta$ .G.C. 8107 ( $\Sigma$  2192), distance  $10''.41$ , mags. 7.5 and 9.9. Oxford  $+29^\circ 42051$  and  $40252$ ;  $+30^\circ 41782$  and  $41783$ .
8419. Fundamental star,  $\mu$  Herculis. Boss' P.G.C. 4497 (Cinc. xii. 1004) gives P.Ms.  $-.0244$  and  $-.750$ . Triple star,  $\beta$ .G.C. 8162, B.C. distance  $1''.82$ , mags.  $10\frac{1}{2}$  and 11. In Oxford A. is  $+27^\circ 39019$ , and B.C. is  $39017$ ; A. is  $+28^\circ 45309$ , and B.C. is  $45303$ . B.C. form a binary of about 44 years' period.
8451. Boss' P.G.C. 4508 (Brad. 2239, Paris 22803, Lal. 32603) gives P.Ms.  $-.0008$  and  $-.045$ .
8455. Two plates, centres  $+25^\circ$ , R.A.  $17^h 48^m$ , epochs 1893.6 and 1910.3, give  $\Delta\xi = +3$  and  $\Delta\eta = +7$ : total P.M.  $13''.6$  a century (L.P.M. 5).
8460. Cambridge observed "Double; *n.p.*"  $\beta$ .G.C. 8192 ( $\Sigma$  2232), distance  $6''.51$ , mags. 7.0 and 8.5. Oxford  $+25^\circ 52456$  and  $+26^\circ 45347$ ; both measured as a single star, diameters of images,  $18''$ .
8466. Boss' P.G.C. 4510 gives P.Ms.  $+.0021$  and  $+.040$ .
8483. The Cambridge Catalogue has the note, "Close double; middle."  $\beta$ .G.C. 8215 ( $\Sigma$  2239), distance  $2''.23$ , mags. 8.5 and 9.0. Oxford  $+28^\circ 45704$  and  $+29^\circ 42414$ ; both measured as a single star.
8519. The Cambridge Catalogue says, "Very close double; middle."  $\beta$ .G.C. 8237, distance  $1''.12$ , mags. 8.3 and 8.8. Single on five Oxford Plates.
8531. Boss' P.G.C. 4528 (Brad. 2249) gives P.Ms.  $+.0001$  and  $+.002$ .
8548. The Cambridge Catalogue has a note, "Coarse double; *n.p.*"  $\beta$ .G.C. 8251, distance  $23''.62$ , mags. 9.1 and 9.5. In Oxford  $+29^\circ 43266$  and  $43267$ ;  $+30^\circ 43889$  and  $43890$ .
8551. The Cambridge Catalogue place is about  $1''$  too small; no evidence of P.M. from three Oxford plates:—

Plate.	Centre.		Epoch.	Residuals.	
		h m			
800	$+29^\circ$	17 55	1895.471	$+.041$	$-.003$
1958	$+30^\circ$	17 51	1902.460	$+.042$	$-.002$
2476	$+29^\circ$	17 55	1906.463	$+.041$	$-.002$

8567. Fundamental star,  $\xi$  Herculis. Boss' P.G.C. 4538 gives P.Ms.  $+.0066$  and  $-.027$ .
8573. Boss' P.G.C. 4542 ( $\nu$  Herculis) gives P.Ms.  $+.0001$  and  $+.004$ .
8583. The Cambridge Catalogue has a note, "Double; north." Not in  $\beta$ .G.C. Oxford  $+29^\circ 43275$  and  $43274$ ;  $+30^\circ 43897$  and  $43896$ ;  $+30^\circ 44326$  and  $44310$ .
8592. Two plates, centre  $+29^\circ$ , R.A.  $17^h 55^m$ , epochs 1895.5 and 1906.5, give  $\Delta\xi = -3$  and  $\Delta\eta = +4$ : total P.M.  $13''.7$  a century (L.P.M. 4).
8623. Two plates, centre  $+29^\circ$ , R.A.  $17^h 55^m$ , epochs 1895.5 and 1906.5, give  $\Delta\xi = -5$  and  $\Delta\eta = -1$ : total P.M.  $13''.9$  a century (L.P.M. 4).
8627. The Cambridge Catalogue says, "Double; *n.f.*"  $\beta$ .G.C. 8325 A.B.C. A.B. distance  $11''.41$ , mags. 8.4 and 13; A.C. distance  $18''.13$ , mags. 8.0 and 9.0. A. is that observed at Cambridge and upon which the O—C residuals depend. Oxford  $+25^\circ 53006$  and  $53005$  are A.C. and ( $\Sigma$  2268);  $+26^\circ 47779$  and  $47777$  also A. and C.; B. is Oxford  $+26^\circ 47778$ , not in Zone  $+25^\circ$ .
8632. Rejected at Cambridge; Dec. 5' too small. See List E.
8634. Two plates, centre  $+29^\circ$ , R.A.  $17^h 55^m$ , epochs 1895.5 and 1906.5, give  $\Delta\xi = +1$  and  $\Delta\eta = -5$ : total P.M.  $13''.9$  a century (L.P.M. 4).
8650. Single observation in Cambridge; four observations in the Revision in 1898.0 give  $\Delta$  R.A.  $= -0''.48$  and  $\Delta\delta = +0''.7$ .
8672. Fundamental star,  $\circ$  Herculis. Boss' P.G.C. 4584 gives P.Ms.  $+.0002$  and  $+.002$ .
- 8674, 8675. The images coalesce, two 6th mag. stars, each about  $24''$  in diameter.  $\beta$ .G.C. 8377 ( $\Sigma$  2280), distance  $13''.85$ . Boss' P.G.C. 4586 (Brad. 2279, Camb. 8674) gives P.Ms.  $-.0002$  and  $+.028$ , and Boss' P.G.C. 4587 (Brad. 2280, Camb. 8675) gives P.Ms.  $-.0016$  and  $+.020$ .
8710. Single observation in Cambridge; three observations of "*n.p.* of 2" in the Revision in 1897.9 give  $\Delta$  R.A.  $= -0''.55$  and  $\Delta\delta = +1''.9$ .
8727. The Cambridge Catalogue has a note, "Very close double; middle."  $\beta$ .G.C. 8421 ( $\Sigma$  2292), distance  $1''.39$ , mags. 8.0 and 8.1. Single on all three Oxford plates,  $+27^\circ 40903$ ,  $+27^\circ 41700$ , and  $+28^\circ 46848$ .
8793. Single observation in Cambridge; three observations in the Revision in 1898.2 give  $\Delta$  R.A.  $= -0''.58$  and  $\Delta\delta = -0''.7$ .
8796. Re-observed at Cambridge, and the M.S. copy gives the note "*s.f.* of 2"; it is Oxford  $+30^\circ 44918$  and  $45390$ , and the note apparently has reference to C. 8794 (Oxford  $+30^\circ 44942$  and  $45410$ ) and not to C. 8793 (Oxford  $+30^\circ 44917$  and  $45389$ ). Possibly red or variable; both the Oxford plates, 1587 and 1588, give the photo. mag. as 11.8 and were exposed on the same day (1900, Sept. 12); not on plate 801 (1895, June 22).
8803. Single observation in Cambridge; three observations in the Revision in 1898.3 give  $\Delta$  R.A.  $= -0''.55$  and  $\Delta\delta = +0''.7$ .



## LIST D.—continued.

Camb.

No.

8811. Single observation in Cambridge; three observations in the Revision in 1897·9 give  $\Delta$  R.A. =  $-0^{\circ}35$  and  $\Delta\delta = +1''6$ .
8817. The Cambridge Catalogue says, "Double; *n.p.*"; this is in Oxford  $+29^{\circ}44735$ , and the *s.f.* star is  $44736$ , also  $+30^{\circ}45472$  and  $45473$ .
8822. The Cambridge Catalogue says, "Double; *s.f.*" Oxford  $+25^{\circ}54576$ , measured as a single star;  $+25^{\circ}55351$  and  $55350$  as two stars; and  $+26^{\circ}48735$ , as a single star.  $\beta$ .G.C. 8501 ( $\Sigma$  2309), distance  $3''52$ , mags. 8·5 and 9·0.
8829. Boss' P.G.C. 4640 (Brad. 2304) gives P.Ms.  $-''0008$  and  $-''003$ .
8833. Boss' P.G.C. 4643 (Brad. 2307) gives P.Ms.  $+''0005$  and  $+''057$ .
8834. Boss' P.G.C. 4644 (Brad. 2306) gives P.Ms.  $+''0004$  and  $+''046$ .
8852. Two plates, centre  $+25^{\circ}$ , R.A.  $18^h 20^m$ , epochs 1893·6 and 1908·7, give  $\Delta\xi = -1$  and  $\Delta\eta = -5$ : total P.M.  $10''1$  a century (L.P.M. 5).
8882. The Cambridge Catalogue has a note, "Close double; south." Oxford  $+26^{\circ}50251$  and  $50252$ ;  $+27^{\circ}42318$ , single star. Not in  $\beta$ .G.C.
8884. An erroneous single observation at Cambridge for C. 8885. See List E.
8890. Two plates, centre  $+25^{\circ}$ , R.A.  $18^h 20^m$ , epochs 1893·6 to 1908·7, give  $\Delta\xi = -3$  and  $\Delta\eta = -7$ : total P.M.  $15''0$  a century (L.P.M. 5).
8903. Boss' P.G.C. 4669 gives P.Ms.  $+''0008$  and  $-''033$ .
8919. An erroneous observation in the Cambridge Catalogue; in the Revision it becomes C. 8912a: not used in the Oxford comparison.
8968. The Cambridge Catalogue has the note, "Close double; middle." In  $\beta$ .G.C. 8607 ( $\Sigma$  2328), distance  $3''45$ , mags. 8·0 and 8·3; Oxford  $+29^{\circ}45365$ , measured as a single star,  $+30^{\circ}45925$ , as a single star.
8986. Single observation in Cambridge; three observations in the Revision in 1897·9 give  $\Delta$  R.A. =  $-0^{\circ}49$  and  $\Delta\delta = +1''3$ .
8998. Single observation in Cambridge; three observations give  $\Delta$  R.A. =  $-0^{\circ}51$  and  $\Delta\delta = -0''7$ .
9007. Appears to be photographically faint.
9016. The Cambridge Catalogue has the note, "Close double; middle." Not in  $\beta$ .G.C. Single in Oxford  $+28^{\circ}47874$  and  $+29^{\circ}45523$ .
9085. The Cambridge Catalogue has the note, "Double; middle." Not in  $\beta$ .G.C. Single in Oxford  $+28^{\circ}48449$  and  $+29^{\circ}45530$ .
9096. The Cambridge Catalogue says, "Close double; middle."  $\beta$ .G.C. 8703. Single in Oxford  $+26^{\circ}51338$ ,  $+27^{\circ}43960$ , and  $+28^{\circ}48126$ .
9103. Two plates, centre  $+25^{\circ}$ , R.A.  $18^h 36^m$ , epochs 1892·6 and 1908·7, give  $\Delta\xi = -3$  and  $\Delta\eta = -5$ : total P.M.  $10''8$  a century (L.P.M. 5).
9104. Rejected at Cambridge; R.A.  $1^m$  too great. See List E.
9113. Single observation in Cambridge; three observations in the Revision in 1897·9 give  $\Delta$  R.A. =  $+0^{\circ}11$  and  $\Delta\delta = +0''5$ .
9140. Single observation in Cambridge; three observations in the Revision in 1897·9 give  $\Delta$  R.A. =  $-0^{\circ}68$  and  $\Delta\delta = -1''0$ .
9156. Forms a double star with C. 9157.
9157. Forms a double star,  $\beta$ .G.C. 8743 ( $\Sigma$  2371), with C. 9156; distance  $9''55$ , mags. 8·5 and 8·5.
9178. The Cambridge Catalogue says, "Double; larger." Oxford  $+27^{\circ}44112$ ,  $44113$ ;  $+27^{\circ}45174$ ,  $45180$ ; and  $+28^{\circ}48285$ ,  $48286$ , the first of each pair is the brighter star. In  $\beta$ .G.C. 8761 ( $\Sigma$  2374).
9205. The Cambridge Catalogue says, "Double; larger." In  $\beta$ .G.C. 8789 ( $\Sigma$  2381, Lal. 34908), distance  $8''50$ , mags. 8·0 and 10·0. Oxford  $+28^{\circ}49086$ ,  $49087$ ; and  $+29^{\circ}45845$ ,  $45846$ .
9211. Boss' P.G.C. 4758 gives P.Ms.  $+0^{\circ}0009$  and  $+''026$ .
9259. Rejected at Cambridge; R.A.  $14^s$  too large. The place given in the Revision is No. 9255a (1875·0), R.A.  $18^h 43^m 50^s 16$  and  $+26^{\circ}14'56''3$ , but it has not been used in the Oxford printed volumes.
9262. Single observation in Cambridge; three observations in the Revision in 1898·0 give  $\Delta$  R.A. =  $-0^{\circ}39$  and  $\Delta\delta = +1''8$ .
9302. Single observation in Cambridge; three observations in the Revision in 1898·1 give  $\Delta$  R.A. =  $+0^{\circ}30$  and  $\Delta\delta = +0''9$ .
9317. Rejected at Cambridge; R.A.  $14^s$  too large. See List E.
9349. Single observation in Cambridge; three observations in the Revision in 1898·3 give  $\Delta$  R.A. =  $-0^{\circ}47$  and  $\Delta\delta = +2''1$ .
9367. The Cambridge Catalogue says, "Close double; middle." In  $\beta$ .G.C. 8920 ( $\Sigma$  2419), distance  $3''24$ , mags. 8·7 and 8·8. Single in Oxford  $+29^{\circ}46571$  and  $+30^{\circ}47435$ .
9369. The residuals given are from one plate, 1089,  $+26^{\circ}$ , R.A.  $18^h 56^m$ , exposed 1897·578; not found on plates 98 (1892·257), 123 (1892·613), 451 (1893·627), and 2365 (1904·660); probably photographically faint.



NOTES.

LIST D.—*continued*.

- Camb.  
No.
9370. Two plates, centre  $+29^\circ$ , R.A.  $18^h 49^m$ , epochs 1895.5 and 1906.6, give  $\Delta\xi = -6$  and  $\Delta\eta = -1$ : total P.M.  $16''.4$  a century (L.P.M. 4).
9389. A single observation in Cambridge; the R.A. was  $14^s$  in error, and was the same star as C. 9400. C. 9389 has been rejected, and a new place for another star has been inserted in the Revision and called C. 9390a; the position for  $1875.0$  and  $1900.0$  from 4 observations of "*p. of 2*" in 1898.2, mag. 9.2, is given in List E.
9408. Double,  $\beta$ .G.C. 8934, distance  $2''.11$ , mags. 9.0 and 12.5; single on Oxford plates.
9410. Rejected at Cambridge; Dec  $1'$  too small.
9412. Rejected at Cambridge; R.A.  $5^m$  too small. See List E.
9424. The Cambridge Catalogue says, "Close double; *s.f.*" Not in  $\beta$ .G.C. Single in Oxford  $+29^\circ 47'14''$ ; double in  $+30^\circ 47'52''$ ,  $47'52''$ .
9449. The Cambridge Catalogue says, "Very close double; middle." In  $\beta$ .G.C. 8961 ( $\Sigma$  2430), distance  $1''.93$ , mags. 8.5 and 8.5. Single in Oxford  $+29^\circ 47'16''$  and  $+30^\circ 47'36''$ .
9453. Boss' P.G.C. 4826 gives P.Ms.  $+''0066$  and  $-''019$ .
9467. Rejected at Cambridge, the following substituted, "9472b (1875.0)  $18^h 55^m 29^s.96$ ,  $+26^\circ 2' 56''.5$ , epoch 1897.7, 1 obs.; preceded by two stars (equal in R.A.) and followed by another." The corrections for 9472b are  $+9$  in  $\Delta\xi$  and  $+3$  in  $\Delta\eta$ , 5 plates, epoch 1898.2. The four stars referred to are in Oxford  $+26^\circ 53'69''$ ,  $53'90''$ ,  $53'92''$  (C. 9472b) and  $53'93''$  (C. 9476). See List E.
9470. Rejected at Cambridge; R.A.  $10^s$  too small. See List E.
9484. Boss' P.G.C. 4839 gives P.Ms.  $-''0003$  and  $-''007$ .
9490. The Cambridge Catalogue says, "Double; south." Not in  $\beta$ .G.C. The two have been measured as one star in the Oxford Zones.
9543. Only on one plate in Zone  $+25^\circ$ .
9562. The Cambridge Catalogue says, "Double; larger." Not in  $\beta$ .G.C. In Oxford  $+28^\circ 52'18''$ ,  $52'18''$  and  $+29^\circ 47'05''$ ,  $47'05''$ .
9588. Boss' P.G.C. 4867 gives P.Ms.  $+''0054$  and  $+''068$ .
9590. Single observation in Cambridge; three observations in the Revision in 1898.0 give  $\Delta$  R.A.  $= -0''.40$  and  $\Delta\delta = +0''.9$ .
9591. The Cambridge Catalogue says, "Double; *n.f.*"  $\beta$ .G.C. 9046 ( $\Sigma$  2458), distance  $10''.93$ , mags. 8.5 and 9.0. In Oxford  $+27^\circ 47'26''$ ,  $47'26''$  and  $+28^\circ 51'36''$ ,  $51'39''$ .
9606. Single observation in Cambridge; three observations in the Revision in 1898.0 give  $\Delta$  R.A.  $= +0''.15$  and  $\Delta\delta = +0''.2$ .
9615. The Cambridge Catalogue says, "Double; preceding."  $\beta$ .G.C. 9056 ( $\Sigma$  2466), distance  $2''.28$ , mags. 8.0 and 8.5. Single in Oxford  $+29^\circ 48'17''$  and  $+30^\circ 48'69''$ .
9655. Single observation in Cambridge; three observations in the Revision in 1898.3 give  $\Delta$  R.A.  $= -0''.58$  and  $\Delta\delta = -0''.8$ . The agreement of the two stars C. 9654 and C. 9655 would be closer to the Oxford results if the printed R.As. were transposed, and they would be nearer the Cambridge revised places.
9673. The Cambridge Catalogue says, "Close double; middle." Not in  $\beta$ .G.C. Single in Oxford  $+26^\circ 55'17''$ ,  $+26^\circ 56'07''$ ,  $+27^\circ 48'13''$ ,  $+28^\circ 51'03''$ , and  $+28^\circ 52'30''$ .
9699. The Cambridge Catalogue says, "Double; *s.f.*"  $\beta$ .G.C. 9123 ( $\Sigma$  2483), distance A.B.  $9''.67$ , mags. 7.2 and 8.3, A.C.  $71''.12$ , mags. 7.2 and 8.5. In Oxford  $+30^\circ 49'33''$ ,  $49'32''$  (A.B.) and  $+31^\circ 45'37''$ ,  $45'37''$  (A.B.); C is  $+30^\circ 49'88''$  and  $+31^\circ 45'34''$ .
9706. Single observation in Cambridge; three observations in the Revision in 1898.0 give  $\Delta$  R.A.  $= -0''.42$  and  $\Delta\delta = +0''.5$ .
9711. Single observation in Cambridge; three observations in the Revision in 1898.0 give  $\Delta$  R.A.  $= -0''.42$ , earlier  $\Delta\delta = -1''.1$ .
9732. The Cambridge Catalogue says, "Double; *s.f.*" Not in  $\beta$ .G.C. Oxford  $+26^\circ 55'53''$ ,  $55'58''$  and  $+27^\circ 47'07''$ ,  $47'06''$ .
9743. The Cambridge Catalogue says, "Double; middle." Not in  $\beta$ .G.C. Oxford  $+28^\circ 52'17''$ ,  $52'18''$ ;  $+29^\circ 47'50''$ , single.
9762. The Cambridge Catalogue says, "Double; larger." Not in  $\beta$ .G.C. Oxford  $+29^\circ 47'90''$ ,  $47'91''$ ;  $+29^\circ 47'14''$ ,  $47'14''$ ; and  $+30^\circ 49'24''$ ,  $49'25''$ .
9790. Single observation in Cambridge; three observations in the Revision in 1898.0 give  $\Delta$  R.A.  $= -0''.10$  and  $\Delta\delta = -4''.7$ .
9797. Two plates, centre  $+25^\circ$ , R.A.  $19^h 16^m$ , epochs 1892.6 and 1904.7, give  $\Delta\xi = +5$  and  $\Delta\eta +10$ : total P.M.  $27''.8$  a century (L.P.M. 5). Also two plates, centre  $+26^\circ$ , R.A.  $19^h 12^m$ , epochs 1893.6 and 1907.8, give  $\Delta\xi = +5$  and  $\Delta\eta = +12$ : total P.M.  $27''.3$  a century (L.P.M. 2).
9847. Single observation in Cambridge; four observations in the Revision in 1898.9 give  $\Delta$  R.A.  $= +0''.04$  and  $\Delta\delta = -2''.5$ .
9850. The Cambridge Catalogue says, "A faint nebula." Oxford  $+26^\circ 56'25''$  and  $+27^\circ 49'10''$ .



LIST D.—*continued*.

- Camb.  
 No.
9854. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0^s.55$  and  $\Delta\delta = -0''.3$ , noted in the Revision as "*s.p.* of 2." These two stars are in Oxford  $+28^\circ 53728, 53729$  and  $+29^\circ 48838, 48839$ .
9885. Boss' P.G.C. 4942 (Brad. 2450) gives P.Ms.  $-0^s.0002$  and  $-0''.015$ .
9892. Rejected at Cambridge; R.A.  $1^m$  too large. See List E.
9897. Single observation in Cambridge; two observations in the Revision in 1898.7 give  $\Delta$  R.A. =  $-0^s.48$  and  $\Delta\delta = +1''.6$ .
9900. Rejected at Cambridge; Dec.  $5'$  too large. See List E.
9903. Single observation in Cambridge; three observations in 1899.4 give  $\Delta$  R.A. =  $-0^s.47$  and  $\Delta\delta = +1''.4$ .
9905. Single observation in Cambridge; two observations in the Revision in 1899.2 give  $\Delta$  R.A. =  $-0^s.18$  and  $\Delta\delta = +1''.3$ .
9907. The Cambridge Catalogue says, "Double; *s.p.*" Not in  $\beta$ .G.C. Oxford  $+27^\circ 49655, 49656$ ;  $+27^\circ 50598, 50599$ ; and  $+28^\circ 53127, 53128$ .
9909. Single observation in Cambridge; two observations in the Revision in 1899.2 give  $\Delta$  R.A. =  $-0^s.31$  and  $\Delta\delta = +0''.1$ .
9911. Single observation in Cambridge; two observations in the Revision in 1898.7 give  $\Delta$  R.A. =  $-0^s.57$  and  $\Delta\delta = -0''.8$ .
9913. The residuals given for  $\Delta\xi$  and  $\Delta\eta$  depend upon the observation in 1875.7 and two additional observations at Cambridge in 1898.1. See List E.
9915. Single observation in Cambridge; three observations in the Revision in 1898.3 give  $\Delta$  R.A. =  $-0^s.44$  and  $\Delta\delta = -0''.4$ .
9921. Boss' P.G.C. 4949 (Brad. 2456) gives P.Ms.  $+0^s.0007$  and  $+0''.010$ .
9924. Rejected at Cambridge; Dec.  $5'$  too small. See list E.
9925. There is some evidence from five plates of variability in the magnitude of this star.
9964. This forms a double star with C 9965.  $\beta$ .G.C. 9305 ( $\Sigma$  2522), distance  $4''.39$ , mags. 7.5 and 9.0. Oxford  $+29^\circ 49881, 49882$ ; single in  $+28^\circ 53755$ . The residuals given depend upon one plate, 805; for the other plate, 474, (1893.726) the combined residual is  $+3$  in  $\Delta\xi$ , and  $+2$  in  $\Delta\eta$ .
9999. Rejected at Cambridge; Dec.  $1'$  too small. See List E.
10002. This star is variable or photographically faint. No trace of an image of the star is visible on plate 805 (exposed 1895.485), which shows 176 stars with the 20 seconds exposure, and 656 stars have been measured upon it. The star was not measured originally on plate 1878 (1901.832), and therefore does not appear in the printed volume. A special examination of this plate in 1912, Nov. 2, showed an extremely faint image of the first or six minutes exposure and the faintest possible trace of the three minutes exposure image in the correct position. The residuals given depend upon the measures of this plate only. It may be mentioned that there are 199 images on this plate for the 20 seconds exposure, and that 920 stars have been measured. The plate formula gives the photographic magnitude as 13.7. The Cambridge revision has the note, "*n.p.* of 2: v. ft."; the other star referred to here is Oxford  $+30^\circ 50623$ .
10004. Two plates, centre  $+25^\circ$ , R.A.  $19^h 24^m$ , epochs 1892.6 and 1904.7, give  $\Delta\xi = 0$  and  $\Delta\eta = +6$ : total P.M.  $14''.8$  a century (L.P.M. 5).
10012. The Cambridge Catalogue says, "Close double; larger." Not in  $\beta$ .G.C. Single in Oxford  $+29^\circ 50169$  and  $+30^\circ 50627$ .
10040. Single observation in Cambridge; three observations give  $\Delta$  R.A. =  $+0^s.28$  and  $\Delta\delta = -1''.6$ . The Revision has the note, "Extremely faint."
10049. Fundamental star,  $\beta^1$  Cygni. Boss' P.G.C. 4986 gives P.Ms.  $-0^s.0002$  and  $-0''.009$ .
10057. The Cambridge Catalogue says, "Double; *s.p.*" Not in  $\beta$ .G.C. Oxford  $+29^\circ 50177, 50178$  and  $+30^\circ 51604, 51605$ .
10074. The Cambridge Catalogue says, "Double; south."  $\beta$ .G.C. 9394, A.B. distance  $4''.33$ , mags. 7.9 and 13; A.C. ( $\Sigma$  2539)  $5''.36$ , mags. 7.9 and 9.7. Single image (A.B.C.) on four Oxford plates, Oxford  $+27^\circ 50818, +27^\circ 51531, +28^\circ 54504$ , and  $+29^\circ 49738$ .
- 10104 and 10111. See *Ast. Nach.*, No. 3687.
10128. Boss' P.G.C. 5000 (Brad. 2487) gives P.Ms.  $+0^s.0013$  and  $+0''.018$ .
10134. Double star.  $\beta$ .G.C. 9437, distance  $0''.49$ , mags. 8.5 and 8.8. Single on Oxford plates.
10149. The Cambridge Catalogue says, "Double; *n.p.*" Not in  $\beta$ .G.C. Single in Oxford  $+29^\circ 51853$  and  $+30^\circ 51621$ .
10178.  $\beta$ .G.C. 9465, distance  $4''.09$ , mags. 7.8 and 14.3. Only the brighter star on Oxford plates.
10190.  $\beta$ .G.C. 9476, distance  $4''.77$ , mags. 8.0 and 14.5. Only the brighter star on Oxford plates.
10196. Single observation in Cambridge Catalogue; three observations in the Revision in 1898.3 give  $\Delta$  R.A. =  $-0^s.59$  and  $\Delta\delta = +1''.7$ .
10201. The Cambridge Catalogue says, "Double; middle."  $\beta$ .G.C. 9481, distance  $6''.34$ , mags. 8.9 and 8.9. Oxford  $+30^\circ 51900, 51901$  and  $+31^\circ 49379, 49380$ .



NOTES.

LIST D.—*continued.*

- Camb.  
No.
10234. Boss' P.G.C. 5021 ( $\phi$  Cygni) gives P.Ms.  $-0^{\circ}0002$  and  $+0^{\circ}035$ .
10241. The Cambridge Catalogue says, "Double; preceding."  $\beta$ .G.C. 9507 ( $\Sigma$  2557), distance, A.B.  $11^{\circ}42$ , mags. 7.3 and 9.8; A.C.  $20^{\circ}95$ , mag. 11.0. Oxford, A.B.C.  $+29^{\circ}51900$ , 51901, 51899 and  $+30^{\circ}53025$ , 53026, 53024.
10251. The Cambridge Catalogue says, "Double; s.f."  $\beta$ .G.C. 9511, A.B.  $0^{\circ}88$ , mags. 9.0 and 10.2; A.C.  $14^{\circ}44$ ; C.D.  $0^{\circ}98$ , mags. 9.0 and 14.0. Oxford  $+25^{\circ}62687$  (A.B.), 62686 (C.D.);  $+25^{\circ}63513$ , 63512;  $+26^{\circ}58517$ , 58516; and  $+27^{\circ}51603$ , 51602.
10256. Single observation in Cambridge; three observations in the Revision in 1898.3 give  $\Delta$  R.A. =  $-0^{\circ}45$  and  $\Delta\delta = +0^{\circ}2$ .
10263. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0^{\circ}64$  and  $\Delta\delta = +0^{\circ}4$ .
10286. Single observation in Cambridge; six observations in the Revision in 1899.0, "f of 2," give  $\Delta$  R.A. =  $-0^{\circ}47$   $\Delta\delta = +0^{\circ}5$ . This is Oxford  $+26^{\circ}58728$ , and the other star is 58727.
10318. Double star, mags. 8.8 and 9.7 (Lick Observatory Bulletin, No. 29).  $\beta$ .G.C. 9553, distance  $0^{\circ}30$ , mags. 8.8 and 9.7. Single on Oxford plates.
10326. Boss' P.G.C. 5039 (Brad. 2508) gives P.Ms.  $+0^{\circ}0004$  and  $+0^{\circ}013$ .
10368. The Cambridge Catalogue says, "Close double; preceding." Not in  $\beta$ .G.C. Oxford  $+25^{\circ}63160$ , 63161 and  $+26^{\circ}59305$ , 59306.
10370. Rejected at Cambridge; Dec.  $1^{\circ}$  too large. See list E.
10372. Two plates, centre  $+27^{\circ}$ , R.A.  $19^{\text{h}}40^{\text{m}}$ , epochs 1892.7 and 1907.7, give  $\Delta\xi = -2$  and  $\Delta\eta = -7$ : total P.M.  $15^{\circ}0$  a century (L.P.M. 3).
10398. Single observation in Cambridge; four observations in the Revision in 1898.7 give  $\Delta$  R.A. =  $-0^{\circ}58$  and  $\Delta\delta = +1^{\circ}5$ .
10409. Rejected at Cambridge; R.A.  $1^{\text{m}}$  too large: 10388a is substituted, but the revised place has not been included in the Oxford work. The residuals ( $+0^{\circ}70$  and  $-0^{\circ}22$ ) refer to another star near the Cambridge place for 10409.
10423. Two plates, centre  $+27^{\circ}$ , R.A.  $19^{\text{h}}40^{\text{m}}$ , epochs 1892.7 and 1907.7, give  $\Delta\xi = -2$  and  $\Delta\eta = +12$ : total P.M.  $15^{\circ}0$  a century (L.P.M. 3).
10447. Rejected at Cambridge; an error of  $1^{\text{m}}$  in the R.A. for C. 10427.
10461. Single observation in Cambridge; three observations in the Revision in 1898.7 give  $\Delta$  R.A. =  $-0^{\circ}43$  and  $\Delta\delta = -0^{\circ}9$ .
10469. Single observation in Cambridge; three observations in the Revision in 1899.0 give  $\Delta$  R.A. =  $-0^{\circ}37$  and  $\Delta\delta = +0^{\circ}3$ .
10478. Single observation in Cambridge; three observations in the Revision in 1899.7 give  $\Delta$  R.A. =  $-0^{\circ}37$  and  $\Delta\delta = +1^{\circ}8$ .
10496. The Cambridge Catalogue says, "Coarse double; north."  $\beta$ .G.C. 9681, distance  $15^{\circ}\pm$  and mags. 10, 10+. Oxford  $+25^{\circ}63994$ , 63993 and  $+26^{\circ}59389$ , 59388.
10517. The Cambridge Catalogue says, "Close double; middle."  $\beta$ .G.C. 9693 ( $O\Sigma$ . 388), distance A.B.  $3^{\circ}70$ , mags. 7.6 and 7.6, B.C.  $26^{\circ}61$ ; mag. 8.8. Oxford  $+25^{\circ}64193$  (A.B.), 64194 (C.);  $+26^{\circ}59547$  (A.B.), 59548 (C.); and  $+26^{\circ}60477$  (A.B.), 60478 (C.)
10567. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0^{\circ}35$  and  $\Delta\delta = -0^{\circ}1$ .
10577. The Cambridge Catalogue says, "Close double; middle." Not in  $\beta$ .G.C. Single in Oxford  $+29^{\circ}55812$  and  $+30^{\circ}55145$ , diameter of images  $12^{\circ}$  and  $15^{\circ}$ .
10587. Rejected at Cambridge; R.A.  $10^{\circ}$  too large. See List E.
10595. The Cambridge Catalogue says, "Double; s.p."  $\beta$ .G.C. 9732 ( $O\Sigma$ . 390), A.B. distance  $9^{\circ}82$ , mags. 6.9 and 9.2; A.C.  $16^{\circ}28$ , mag. 11.0. Oxford  $+29^{\circ}55922$  (A.), 55923 (B.) and  $+30^{\circ}55260$  (A.), 55261 (B.); C. is probably merged in the image of the brighter star.
10607. Single observation in Cambridge; three observations in the Revision in 1898.7 of "s.f. of 2" give  $\Delta$  R.A. =  $-0^{\circ}68$  and  $\Delta\delta = -1^{\circ}7$ .
10619. Single observation in Cambridge; three observations in the Revision in 1899.1, "p. of 2; v. ft.," give  $\Delta$  R.A. =  $-0^{\circ}66$  and  $\Delta\delta = -2^{\circ}2$ .
10636. Two plates, centre  $+29^{\circ}$ , R.A.  $19^{\text{h}}52^{\text{m}}$ , epochs 1895.7 and 1907.0, give  $\Delta\xi = -4$  and  $\Delta\eta = -7$ : total P.M.  $21^{\circ}5$  a century (L.P.M. 4).
10637. Two plates, centre  $+29^{\circ}$ , R.A.  $19^{\text{h}}52^{\text{m}}$ , epochs 1895.7 and 1907.0, give  $\Delta\xi = +2$  and  $\Delta\eta = -7$ : total P.M.  $19^{\circ}4$  a century (L.P.M. 4).
10644. Two plates, centre  $+29^{\circ}$ , R.A.  $19^{\text{h}}52^{\text{m}}$ , epochs 1895.7 and 1907.0, give  $\Delta\xi = +2$  and  $\Delta\eta = -9$ : total P.M.  $24^{\circ}2$  (L.P.M. 4).
10646. Two plates, centre  $+29^{\circ}$ , R.A.  $19^{\text{h}}52^{\text{m}}$ , epochs 1895.7 and 1907.0, give  $\Delta\xi = +1$  and  $\Delta\eta = +12$ : total P.M.  $31^{\circ}9$  a century (L.P.M. 4).
10688. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0^{\circ}65$  and  $\Delta\delta = -0^{\circ}3$ .



LIST D.—*continued*.

- Camb.  
 No.
10689. Single observation in Cambridge; three observations in the Revision in 1898.7, noted as the "p. of 2," give  $\Delta$  R.A. =  $-0^{\circ}.43$  and  $\Delta\delta = -1''.1$ .
10724. Two plates, centre  $+29^{\circ}$ , R.A.  $19^h 52^m$ , epochs 1895.7 and 1907.0, give  $\Delta\xi = 0$  and  $\Delta\eta = -5$ : total P.M.  $13''.3$  a century (L.P.M. 4).
10726. Boss' P.G.C. 5132 (Brad. 2558) gives P.Ms.  $+0.0039$  and  $+0.006$ .
10735. Rejected at Cambridge;  $1^{\circ}$  too small; 10735a is substituted in Revision. The new position has not been used at Oxford.
10770. The Cambridge Catalogue says, "Very close double; middle." Not in  $\beta$ .G.C. Single in Oxford  $+26^{\circ} 62477$  and  $+27^{\circ} 54194$ ; unless the other star is that in Oxford  $1^s$  later.
10780. Boss' P.G.C. 5144 (Lal. 38380, Cinc. xiii. 1576) gives P.Ms.  $+0.0515$  and  $-0.0528$ .
10788. Single observation in Cambridge; five observations in the Revision in 1898.7 give  $\Delta$  R.A. =  $-0^{\circ}.55$  and  $\Delta\delta = -0''.2$ .
10814. Large P.M. About  $45''$  a century, from five Oxford plates.
10820. Single observation. Rejected at Cambridge; Dec.  $15'$  too small, and presumed to be the same star as C. 10821.
10832. Photographically faint. Oxford (1897, Sept. 10)  $9.6$  mag. and (1904, Sept. 19)  $9.7$  mag.
10837. Double in  $\beta$ .G.C. (Appendix) 13504, distance  $0''.34$ , mags.  $9.0$  and  $9.5$ . Single in Oxford  $+29^{\circ} 56394$ ,  $+30^{\circ} 56363$ , and  $+30^{\circ} 57496$ .
10888. Double in  $\beta$ .G.C. (Appendix) 13508, distance  $1''.12$ , mags.  $9.0$  and  $11.0$ . Single in Oxford  $+29^{\circ} 56431$ , and  $+30^{\circ} 57548$ .
10921. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0^{\circ}.44$  and  $\Delta\delta = -1''.2$ .
10928. Suspected variable (Chandler III. 7235).
10938. The Cambridge Catalogue says, "Close double; middle." Not in  $\beta$ .G.C. Oxford  $+25^{\circ} 66021$ ,  $66022$  and  $+26^{\circ} 63374$ ,  $63375$ .
10942. Boss' P.G.C. 5173 (Brad. 2583) gives P.Ms.  $0.0000$  and  $-0.007$ .
10971. Double in  $\beta$ .G.C. (Appendix) 13512, distance  $4''.86$ , mags.  $7.6$  and  $13.8$ . Single on Oxford plates.
10973. Single observation in Cambridge; three observations in 1898.7 in the Revision give  $\Delta$  R.A. =  $-0^{\circ}.50$ , and  $\Delta\delta = -0''.1$ .
10974. Boss' 5177 (Brad. 2585) gives P.Ms.  $+0.0005$  and  $-0.019$ .
10981. Boss' 5178 (Brad. 2588) gives P.Ms.  $-0.0003$  and  $-0.016$ .
10987. Single observation in Cambridge; four observations in the Revision in 1898.9 give  $\Delta$  R.A. =  $-0^{\circ}.75$  and  $\Delta\delta = +0''.2$ .
10992. The Cambridge Catalogue has a note, "Close double; s.f." Not in  $\beta$ .G.C. Oxford  $+29^{\circ} 56969$ ,  $56968$ ; single in  $+30^{\circ} 57342$ .
10994. Single observation in Cambridge; three observations in the Revision in 1899.4 give  $\Delta$  R.A. =  $-0^{\circ}.31$  and  $\Delta\delta = +2''.7$ .
10996.  $\beta$ .G.C. 13514 (Appendix), distance  $0''.28$ , mags.  $9.0$  and  $9.1$ . Single on Oxford plates.
11003. Rejected at Cambridge; R.A.  $1^s$  too large. See List E.
11006. The Cambridge Catalogue says, "Double; s.f." Corrected on p. 306 to "double; s.p."  $\beta$ .G.C. 10010, also 13516 distance  $18''.20 \frac{A.B.}{2}$  C. B.C. distance  $0''.32$ . Oxford  $+28^{\circ} 59330$  (A.),  $59341$  (B.C.), and  $+29^{\circ} 56904$  (A.),  $56905$  (B.C.).
11028. Boss' P.G.C. 5185 (Brad. 2594) gives P.Ms.  $+0.0005$  and  $-0.025$ .
11045. Boss' P.G.C. 5190 gives P.Ms.  $-0.0002$  and  $-0.002$ . Double,  $\beta$ .G.C. 10040, distance  $0''.86$ , mags.  $6.1$  and  $10.2$ .
11062. Boss' P.G.C. 5195 (Brad. 2602) gives P.Ms.  $-0.0032$  and  $+0.006$ .
11065. Double star,  $\beta$ .G.C. 10053, distance  $1''.50$ , mags.  $9.3$  and  $9.6$ . Lick Observatory Bulletin, No. 29. Single in Oxford  $+26^{\circ} 64805$ ,  $+26^{\circ} 65594$ , and  $+27^{\circ} 56322$ .
11091. Rejected at Cambridge, an erroneous observation of C. 11090; the old position for 11090 has been used at Oxford.
11115. Double star,  $\beta$ .G.C. 13519, distance  $0''.34$ , mags.  $8.9$  and  $9.7$ . Lick Observatory Bulletin, No. 29. Single in Oxford  $+28^{\circ} 59909$  and  $+29^{\circ} 56917$ .
11145. Double star,  $\beta$ .G.C. 13521, distance  $0''.44$ , mags.  $9.5$  and  $10.2$ . Lick Observatory Bulletin, No. 29. Single in Oxford  $+29^{\circ} 58063$ , and  $+30^{\circ} 58536$ .
11198. Single Observation in Cambridge; three observations in the Revision in 1898.3 give  $\Delta$  R.A. =  $-0^{\circ}.35$  and  $\Delta\delta = -0''.5$ .
11207. Rejected at Cambridge; R.A.  $14^s$  too large. See List E.
11248. The Cambridge Catalogue says, "Double; n.f." Not in  $\beta$ .G.C. Oxford  $+27^{\circ} 57364$ ,  $57363$ ,  $+28^{\circ} 60279$ ,  $60278$ ; and  $+29^{\circ} 57524$ ,  $57523$ .



NOTES.

LIST D.—*continued*.

- Camb.  
No.
11253. The Cambridge Catalogue says, "Close double; middle."  $\beta$ .G.C. 10192, distance  $1''.62$ , mags. 8.2 and 8.2. Single in Oxford  $+28^\circ 60'52.5$ ,  $+29^\circ 57'87.3$ , and  $+30^\circ 59'24.1$ .
11257. Single observation in Cambridge; four observations in the Revision in 1898.9 give  $\Delta$  R.A. =  $-0''.37$  and  $\Delta\delta = -5''.7$ .
11260. Single observation in Cambridge; four observations in the Revision in 1899.0 give  $\Delta$  R.A. =  $-0''.49$  and  $\Delta\delta = +0''.2$ .
11280. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0''.60$  and  $\Delta\delta = -0''.5$ .
11281. Two plates, centre  $+25^\circ$ , R.A.  $20^h 20^m$ , epochs 1893.6 and 1903.7, give  $\Delta\xi = -5$ ,  $\Delta\eta = -2$ : total P.M.  $16''.0$  a century (L.P.M. 5).
11283. The Cambridge Catalogue says, "Close double; s.f.": this should evidently be "wide or course double."  $\beta$ .G.C. 10208 ( $\Sigma$  2682), distance  $20''.27$ , mags. 8.2 and 9.4. Oxford  $+25^\circ 68'08.3$ ,  $68'08.2$  and  $+26^\circ 65'73.0$ ,  $65'72.9$ .
11295. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0''.42$  and  $\Delta\delta = -1''.2$ .
11301. Rejected at Cambridge; R.A. 5 min. too late; same star as 11175.
11308. Single observation in Cambridge; not found in the Revision in 1897, Sept. 10. On Oxford plates exposed in 1892, Sept. 17 (photo. mag. 10.3) and in 1898, Oct. 3 (photo. mag. 12.3); rather faint.
11317. Double star.  $\beta$ .G.C. 10225, distance  $0''.37$ , mags. 8.7 and 9.2. Lick Observatory Bulletin, No. 29. Single on Oxford plates.
11322. Single observation, rejected at Cambridge; R.A.  $14^s$  too late; same star as C. 11314.
11329. Rejected at Cambridge; R.A.  $14^s$  too large. See List E.
11332. The Cambridge Catalogue says, "Double; s.p." Not in  $\beta$ .G.C. Oxford  $+27^\circ 57'28.1$ ,  $57'28.2$ ;  $+27^\circ 58'17.7$ ,  $58'17.8$ ; and  $+28^\circ 60'19.1$ ,  $60'19.2$ .
11366. Double star.  $\beta$ .G.C. 10259, distance  $0''.55$ , mags. 9.0 and 10.3. Lick Observatory Bulletin, No. 29. Single on Oxford plates.
11375. The Cambridge Catalogue says, "Double; s.f." Not in  $\beta$ .G.C. Oxford  $+29^\circ 58'52.5$ ,  $58'52.4$  and  $+30^\circ 59'51.0$ ,  $59'50.9$ .
11387. Boss' P.G.C. 5255 (Brad. 2637) gives P.Ms.  $+''0007$  and  $-''0004$ .
11394. Rejected at Cambridge; R.A. 14 sec. too large. The same star as C. 11385.
11401. Single observation in Cambridge; three observations in the Revision in 1898.7 give  $\Delta$  R.A. =  $-1''.07$  and  $\Delta\delta = -0''.7$ , with the note "f of 2." Oxford  $+25^\circ 69'36.8$ , the other star is 69366 (= C. 11385), and  $+26^\circ 65'92.9$ ,  $65'92.7$ .
11437. Rejected at Cambridge; Dec.  $1'$  too large. See List E.
11478. The Cambridge Catalogue says, "Close double; middle."  $\beta$ .G.C. 10327 ( $\Sigma$  2698), with an error of  $+5'$ , distance  $4''.11$ , mags. 8.1 and 9.0. Single in Oxford  $+27^\circ 58'27.0$  and  $+28^\circ 60'77.8$ .
11508. Two plates, centre  $+26^\circ$ , R.A.  $20^h 32^m$ , epochs 1892.6 and 1904.8, give  $\Delta\xi = -8$  and  $\Delta\eta = -6$ : total P.M.  $25''.0$  a century (L.P.M. 2).
11515. Boss' P.G.C. 5287 (Brad. 2653) gives P.Ms.  $+''0014$  and  $+''0002$ .
11523. Variable, 1904, No. 4; V. Vulpeculae. See *Ast. Nach.*, 3929, and *Viertelj. der Astron. Gesell.*, 47 pp.: 226, 253.
11533. Boss' P.G.C. 5289 (Brad. 2660) gives P.Ms.  $+''0011$  and  $-''0015$ .
11540. Single observation in Cambridge; three observations in the Revision in 1898.1 give  $\Delta$  R.A. =  $-0''.57$  and  $\Delta\delta = -1''.2$ .
11572. Boss' P.G.C. 5309 gives P.Ms.  $-''0033$  and  $-''0079$ .
11587. The Cambridge Catalogue says, "Double; larger."  $\beta$ .G.C. 10414 ( $\Sigma$  2711); distance  $2''.53$ , mags. 8.0 and 9.0.
11619. The residual given for  $\Delta\xi$  is after a correction of  $-1^s$  has been applied to the Cambridge Catalogue, according to a letter dated 1897, July 10 from Mr. A. R. Hinks.
11642. Single observation in Cambridge; three observations in the Revision in 1898.1 give  $\Delta$  R.A. =  $+0''.72$  and  $\Delta\delta = -0''.9$ . The residuals depend upon the single observation.
11647. Single observation in Cambridge; four observations of a star "p. of 3" in the Revision in 1898.8 give  $\Delta$  R.A. =  $-0''.43$  and  $\Delta\delta = -0''.1$ . Oxford  $+28^\circ 61'44.3$  and  $+29^\circ 58'63.8$ . The B.D. reference,  $+28^\circ 38'59$ , is erroneously applied; that star is about  $42''$  south and  $5^s$  later, is brighter, and is not in the Revision; it is Oxford  $+28^\circ 61'44.4$  and  $+29^\circ 58'63.9$ . The middle and north of three stars is that used for the residuals given in Vol. viii., p. 75.
11658. Two plates, centre  $+26^\circ$  R.A.  $20^h 40^m$ , epochs 1894.9 and 1904.8, give the  $\Delta\xi = -1$  and  $\Delta\eta = +5$ : total P.M.  $15''.3$  a century (L.P.M. 2).
11688. Boss' P.G.C. 5330 (Brad. 2680, Cinc. xii. 1149 and xiii. 1644) gives P.Ms.  $-''0026$  and  $-''0182$ .
11693. The Cambridge Catalogue says, "Close double; middle." Not in  $\beta$ .G.C. Single in Oxford  $+27^\circ 59'26.4$ ,  $+27^\circ 60'09.2$ ,  $+28^\circ 61'41.0$ , and  $+29^\circ 58'62.6$ .
11694. The Cambridge Catalogue says, "Double; north." Not in  $\beta$ .G.C. In Oxford  $+29^\circ 59'16.3$ ,  $59'16.4$ ;  $+30^\circ 61'39.7$ ,  $61'39.8$ ; and  $+31^\circ 60'31.6$ ,  $60'31.7$ ; in each case the first of the pair is C. 11694.



LIST D.—*continued*.

- Camb.  
 No.
11715. Boss' P.G.C. 5331 (Brad. 2687) gives P.Ms.  $-0^{\circ}011$  and  $+0^{\circ}023$ .
11738. The Cambridge Catalogue says, "Double; middle."  $\beta$ .G.C. 10519 (Lal. 40166), distance  $1^{\circ}06$ , mags. 8.7 and 8.9. Single in Oxford  $+25^{\circ}70452$  and  $+26^{\circ}67670$ .
11744. Single observation in the Catalogue; three observations in 1898.4 give  $\Delta$  R.A.  $= -0^{\circ}50$  and  $\Delta\delta = +0^{\circ}4$ .
11761. The Cambridge Catalogue says, "Very close double; middle."  $\beta$ .G.C. 10538, distance  $1^{\circ}23$ , mags. 8.6 and 9.1. Single in Oxford  $+27^{\circ}59707$  and  $+28^{\circ}61226$ .
11765. Double star.  $\beta$ .G.C. 10540 ( $\Sigma$  2728), distance  $4^{\circ}22$ , mags. 8.0 and 10.3. In Oxford  $+25^{\circ}70705$ ,  $70706$ ;  $+26^{\circ}68251$ ,  $68252$ ;  $+26^{\circ}69088$ ,  $69089$ ; and  $+27^{\circ}59317$ ,  $59318$ .
11783. Rejected at Cambridge; an erroneous observation by 1<sup>m</sup> in R.A. for C. 11753.
11800. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= -0^{\circ}45$  and  $\Delta\delta = -1^{\circ}8$ .
11829. The Cambridge Catalogue says, "Double; larger." In  $\beta$ .G.C. 10565 ( $\Sigma$  415), distance  $3^{\circ}44$ , mags. 7.5 and 9.5. Single in Oxford  $+29^{\circ}59855$ ,  $+30^{\circ}62409$ , and  $+31^{\circ}61053$ .
11843. Boss' P.G.C. 5370 gives P.Ms.  $+0^{\circ}005$  and  $-0^{\circ}013$ . This is the Variable, T. Vulpeculæ.
11846. Rejected at Cambridge; Dec. 1' too large. See List E.
11853. Boss' P.G.C. 5373 (Brad. 2703) gives P.Ms.  $-0^{\circ}056$  and  $-0^{\circ}071$ .
11884. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A.  $= -0^{\circ}49$  and  $\Delta\delta = +0^{\circ}6$ .
11886. Single observation in Cambridge; four observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= -1^{\circ}03$  and  $\Delta\delta = 0^{\circ}0$ .
11898. Fundamental star, 32 Vulpeculæ. Boss' P.G.C. 5379 (Brad. 2709) gives P.Ms.  $-0^{\circ}007$  and  $-0^{\circ}002$ .
11904. Two plates, centre  $+28^{\circ}$ , R.A.  $20^h 51^m$ , epochs 1892.7 and 1907.5, give  $\Delta\xi = +8$  and  $\Delta\eta = -6$ : total P.M.  $19^{\circ}7$  a century (L.P.M. 1).
11920. Single observation in Cambridge; three observations of "f. of 2" in the Revision in 1898.0 give  $\Delta$  R.A.  $= -0^{\circ}67$  and  $\Delta\delta = +3^{\circ}2$  larger. Oxford  $+27^{\circ}60738$ ,  $60703$  and  $+28^{\circ}61846$ ,  $61845$ .
11952. Rejected at Cambridge; not found there in the Revision in 1897, Oct. 29, Oct. 30; 1898, Sept. 28.
11996. Single observation in Cambridge; three observations in the Revision in 1898.1 give  $\Delta$  R.A.  $= -0^{\circ}27$  and  $\Delta\delta = +4^{\circ}1$ . From three Oxford plates (1892.7 to 1907.5) the star has evidently P.Ms.
12036. Rejected at Cambridge; Dec. 5' too large. See List E.
12047. Rejected at Cambridge; an erroneous observation for C 12073.
12058. Two plates, centre  $+25^{\circ}$ , R.A.  $21^h 0^m$ , epochs 1893.7 and 1904.7, give  $\Delta\xi = +4$  and  $\Delta\eta = +5$ : total P.M.  $17^{\circ}4$  a century (L.P.M. 5).
12076. Single observation in Cambridge; five observations in the Revision in 1898.9 give  $\Delta$  R.A.  $= -0^{\circ}65$  and  $\Delta\delta = -0^{\circ}7$ .
12100. Rejected at Cambridge; not found in 1897-9. Nothing near on the Oxford plates.
12127. The Cambridge Catalogue says, "Double; preceding." Not in  $\beta$ .G.C. Oxford  $+29^{\circ}61107$ ,  $61108$ ; single in  $+30^{\circ}63250$ .
12134. Rejected at Cambridge; not found there, 1897, Oct. 20. Nothing near on Oxford plates.
12138. Rejected at Cambridge; Dec. 1' too large. See List E.
12174. Boss' P.G.C. 5442 (Cinc. xiv. 1798) gives P.Ms.  $+0^{\circ}0017$  and  $-0^{\circ}016$ . The Cambridge Catalogue says, "Double; middle." In  $\beta$ .G.C. 10773 ( $\Sigma$  2762), distance  $3^{\circ}55$ , mags. 6.0 and 8.0. Single in Oxford.
12233. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A.  $= +0^{\circ}03$  and  $\Delta\delta = +1^{\circ}3$ .
12245. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A.  $= -0^{\circ}45$  and  $\Delta\delta = +1^{\circ}1$ .
12254. Fundamental star,  $\zeta$  Cygni. Boss' P.G.C. 5452 gives P.Ms.  $-0^{\circ}0002$  and  $-0^{\circ}059$ .
12257. Single observation in Cambridge; three observations in the Revision in 1898.7 give  $\Delta$  R.A.  $= -0^{\circ}79$  and  $\Delta\delta = +2^{\circ}1$ .
12270. Variable or photographically faint. Photographic mag. on plate 1240 (1898, Oct. 31),  $+28^{\circ}63919$ , is 11.1; and on plate 539 (1894, Oct. 2),  $+29^{\circ}61443$ , is 11.4.
12294. Rejected at Cambridge; 3' too small. See List E.
12308. Rejected at Cambridge; Dec. 5' too large. See List E.
12323. Single observation in Cambridge; three observations in the Revision in 1898.7 give  $\Delta$  R.A.  $= -0^{\circ}56$  and  $\Delta\delta = +0^{\circ}3$ .
12335. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A.  $= -0^{\circ}44$  and  $\Delta\delta = +2^{\circ}4$ .
12386. Single observation in Cambridge; three observations give  $\Delta$  R.A.  $= +0^{\circ}04$  and  $\Delta\delta = -0^{\circ}7$ .
12390. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A.  $= -0^{\circ}48$  and  $\Delta\delta = +2^{\circ}3$ .



LIST D.—*continued*.

- Camb.  
No.
12413. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A. =  $-0^s.57$  and  $\Delta\delta = +1''.4$ .
12435. The Cambridge Catalogue has a note, "Double; s.f."  $\beta$ .G.C. 10948 ( $\Sigma$  2792), distance  $7''.04$ , mags. 8.5 and 10.0. Oxford  $+28^\circ 64551$ , 64550 and  $+29^\circ 62086$ , 62085.
12441. Single observation in Cambridge; two observations in the Revision in 1898.8, marked "ft.," give  $\Delta$  R.A. =  $-0^s.68$  and  $\Delta\delta = -3''.0$ .
12443. Single observation in Cambridge; two observations in the Revision in 1899.3 give  $\Delta$  R.A. =  $-0^s.41$  and  $\Delta\delta = -0''.3$ .
12446. Rejected at Cambridge; Dec. 1' too small. See List E.
12462. Boss' P.G.C. 5504 gives P.Ms.  $+0^s.0028$  and  $-''007$ .
12465. Double.  $\beta$ .G.C. 13573, distance  $1''.49$ , mags. 9.3 and 9.4. Single in Oxford  $+29^\circ 62294$  and  $+30^\circ 65735$ .
12482. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0^s.48$  and  $\Delta\delta = +0''.2$ .
12503. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0^s.50$  and  $\Delta\delta = +0''.3$ .
12505. Rejected at Cambridge; R.A.  $1^m$  too large. See List E.
12516. Boss' P.G.C. 5515 (Brad. 2793) gives P.Ms.  $+0^s.0026$  and  $+''022$ .
12542. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A. =  $-0^s.49$  and  $\Delta\delta = +2''.8$ .
12544. Single observation in Cambridge: three observations in the Revision in 1898.7, marked "v. ft.," give  $\Delta$  R.A. =  $-0^s.57$  and  $\Delta\delta = +0''.3$ .
12569. Rejected at Cambridge; R.A.  $14^s$  too large. See List E.
12615. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0^s.16$  and  $\Delta\delta = +3''.8$ .
12627. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A. =  $-0^s.56$  and  $\Delta\delta = +1''.0$ .
12648. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0^s.73$  and  $\Delta\delta = +1''.0$ .
12667. Single observation in Cambridge; three observations in the Revision in 1899.1 give  $\Delta$  R.A. =  $-0^s.70$  and  $\Delta\delta = +0''.1$ .
12694. Single observation in Cambridge; four observations in the Revision in 1898.6 give  $\Delta$  R.A. =  $-0^s.51$  and  $\Delta\delta = +1''.4$ .
12723. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A. =  $-0^s.56$  and  $\Delta\delta = -0''.1$ .
12724. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A. =  $+0^s.06$  and  $\Delta\delta = -0''.7$ .
12725. Single observation in Cambridge; three observations in the Revision in 1898.4, marked "v. ft.," give  $\Delta$  R.A. =  $+0^s.10$  and  $\Delta\delta = -0''.2$ .
12742. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0^s.59$  and  $\Delta\delta = +2''.9$ .
12777. Single observation in Cambridge; three observations of "s.f. of 2" in the Revision in 1898.5 give  $\Delta$  R.A. =  $-0^s.74$  and  $\Delta\delta = +0''.5$ . The two stars are in Oxford  $+26^\circ 73740$ , 73739;  $+27^\circ 63244$ , 63243; and  $+27^\circ 63798$ , 63797.
12786. P.Ms. in Cinc. xiii. 1748 (Cinc. xii. 1203, Lal. 42286)  $+0^s.0238$  and  $-''062$ .
12832. Two plates, centre  $+26^\circ$ , R.A.  $21^h 44^m$ , epochs 1893.6 and 1907.8, give  $\Delta\xi = -16$  and  $\Delta\eta = -8$ : total P.M.  $37''.8$  a century (L.P.M. 2).
12834. Two plates, centre  $+26^\circ$ , R.A.  $21^h 44^m$ , epochs 1893.6 and 1907.8, give  $\Delta\xi = +9$  and  $\Delta\eta = +5$ : total P.M.  $21''.6$  a century (L.P.M. 2). Also two plates, centre  $+25^\circ$ , R.A.  $21^h 40^m$ , epochs 1892.8 and 1903.7, give  $\Delta\xi = +4$  and  $\Delta\eta = +6$ : total P.M.  $19''.7$  a century (L.P.M. 5).
12835. This is a slow binary  $\mu^1$  and  $\mu^2$  Cygni; the Cambridge Catalogue has a note, "Close double; middle."  $\beta$ .G.C. 11214 ( $\Sigma$  2822), A.B. distance  $5''.56$ , mags. 4.0 and 5.0; A.C.  $35''.34$ , mag. 11.5; A.D.  $217''.40$ , mag. 6.2. Oxford  $+28^\circ 66265$  (A.B.), 66266 (D.);  $+29^\circ 62965$  (A.B.), 62966 (D.): C is not visible. Boss' P.G.C. 5587 ( $\mu^1$ ) gives P.Ms.  $+0^s.0214$  and  $-''240$  (also in Cinc. xiii. 1752); Boss' P.G.C. 5588 ( $\mu^2$ ) gives P.Ms.  $+0^s.0172$  and  $-''226$ . Two plates, centre  $+28^\circ$ , R.A.  $21^h 36^m$ , epochs 1892.7 and 1907.5, give  $\Delta\xi = +10$  and  $\Delta\eta = -12$ : total P.M.  $31''.2$  a century (L.P.M. 1).
12839. Boss' P.G.C. 5591 gives P.Ms.  $-0^s.0008$  and  $-''060$ .
12845. Single observation in Cambridge; four observations in the Revision in 1898.6 give  $\Delta$  R.A. =  $-0^s.73$  and  $\Delta\delta = +1''.8$ .



LIST D.—*continued*.

- Camb.  
 No.
12847. Fundamental star,  $\kappa$  Pegasi. Boss' P.G.C. 5592 gives P.Ms.  $+^{\circ}0024$  and  $+''002$ . A binary of 11 years;  $\beta$ .G.C. 11222, distance  $0''2$ , mags. 4.8 and 5.3 (A.B.), and  $11''01$ , mags. 3.9 and 10.8 ( $AB_{\frac{1}{2}}$  and C); A.C. =  $\Sigma$  2824. Oxford  $+26^{\circ} 73851$  (A.B.), 73850 (C.); A.B.C. single in  $+25^{\circ} 74681$  and  $+26^{\circ} 73351$ ; diameter  $25''$ .
12850. Rejected at Cambridge; R.A.  $10^{\circ}$  too large. See List E.
12867. Boss' P.G.C. 5598 (Brad. 2851) gives P.Ms.  $+^{\circ}0010$  and  $+''001$ .
12875. Boss' P.G.C. 5602 (Brad. 2852) gives P.Ms.  $+^{\circ}0108$  and  $+''013$ ; also in Cinc. xiv. 1859.
12893. Single observation in Cambridge; three observations in the Revision in 1898.8 give  $\Delta$  R.A. =  $+0^{\circ}20$  and  $\Delta\delta = -0''4$ .
12895. The Cambridge Catalogue says, "Double; middle." Not in  $\beta$ .G.C. In Oxford  $+28^{\circ} 67072$ , 67073 and  $+29^{\circ} 63003$ , 63004; the Oxford measures have, however, been compared with and the residuals are given for the first and slightly fainter star.
12916. Single observation in Cambridge; three observations in the Revision in 1898.8, marked as "v. ft.," give  $\Delta$  R.A. =  $-0^{\circ}59$  and  $\Delta\delta = +1''4$ .
12917. Rejected at Cambridge; R.A.  $10^{\circ}$  too small. See List E.
12922. Two plates, centre  $+25^{\circ}$ , R.A.  $21^h 40^m$ , epochs 1892.8 and 1903.7, give  $\Delta\xi = +1$  and  $\Delta\eta = +6$ : total P.M.  $16''7$  a century (L.P.M. 5).
12937. Boss' P.G.C. 5617 (Brad. 2859) gives P.Ms.  $+^{\circ}0020$  and  $-''027$ .
12944. Single observation in Cambridge; three observations in the Revision in 1899.1, marked "p. of 2," give  $\Delta$  R.A. =  $-0^{\circ}43$  and  $\Delta\delta = +1''6$ . The two stars are Oxford  $+28^{\circ} 66960$ , 66961 and  $+29^{\circ} 63526$ , 63527.
12945. Single observation in Cambridge; three observations in the Revision in 1899.1 give  $\Delta$  R.A. =  $-0^{\circ}40$  and  $\Delta\delta = +1''5$ .
12948. Single observation in Cambridge; three observations in the Revision in 1899.1 give  $\Delta$  R.A. =  $-0^{\circ}47$  and  $\Delta\delta = +1''1$ .
12951. Two plates, centre  $+28^{\circ}$ , R.A.  $21^h 45^m$ , epochs 1892.7 and 1907.5, give  $\Delta\xi = +10$  and  $\Delta\eta = +7$ : total P.M.  $24''4$  a century (L.P.M. 1). Double in  $\beta$ .G.C. 13591, distance  $0''20$ , mags. 9.0 and 10.0. Single in Oxford  $+28^{\circ} 67189$  and  $+29^{\circ} 63638$ .
12959. Two plates, centre  $+28^{\circ}$ , R.A.  $21^h 45^m$ , epochs 1892.7 and 1907.5, give  $\Delta\xi = -7$  and  $\Delta\eta = -4$ : total P.M.  $16''1$  a century (L.P.M. 1).
12965. Two plates, centre  $+27^{\circ}$ , R.A.  $21^h 48^m$ , epochs 1892.7 and 1907.5, give  $\Delta\xi = +8$  and  $\Delta\eta = -1$ : total P.M.  $16''2$  a century (L.P.M. 3).
12966. Boss' P.G.C. 5625 (Brad. 2863) gives P.Ms.  $-^{\circ}0045$  and  $-''074$ .
12970. Fundamental star. Boss' P.G.C. 5627 (Brad. 2864) gives P.Ms.  $+^{\circ}0001$  and  $+''001$ .
12981. Two plates, centre  $+27^{\circ}$ , R.A.  $21^h 48^m$ , epochs 1892.7 and 1907.7, give  $\Delta\xi = -10$  and  $\Delta\eta = -8$ : total P.M.  $25''2$  a century (L.P.M. 3). Also two plates, centre  $+28^{\circ}$ , R.A.  $21^h 45^m$ , epochs 1892.7 and 1907.5, give  $\Delta\xi = -8$  and  $\Delta\eta = -5$ : total P.M.  $18''9$  a century (L.P.M. 1).
12990. The Cambridge Catalogue says, "Close double; s.p." It is a single observation. In the Revision the observed place,  $1875^{\circ} 21^h 49^m 22^s.50 + 24^{\circ} 47' 16''3$ , has a note "*d. n.*" Not in  $\beta$ .G.C.
13009. Single observation in Cambridge; three observations in the Revision in 1899.5 give  $\Delta$  R.A. =  $-0^{\circ}35$  and  $\Delta\delta = +0''8$ .
13011. Single observation in Cambridge; three observations in the Revision in 1899.7 give  $\Delta$  R.A. =  $+0^{\circ}36$  and  $\Delta\delta = -1''0$ . Originally printed as  $27^{\circ}$ , but corrected to  $+28^{\circ}$  in the Errata on p. 306.
13020. Two plates, centre  $+25^{\circ}$ , R.A.  $21^h 48^m$ , epochs 1892.8 and 1903.8, give  $\Delta\xi = +7$  and  $\Delta\eta = -2$ : total P.M.  $19''9$  a century (L.P.M. 5). Also two plates, centre  $+27^{\circ}$ , R.A.  $21^h 48^m$ , epochs 1892.7 and 1907.7, give  $\Delta\xi = +10$  and  $\Delta\eta = +2$ : total P.M.  $21''4$  a century (L.P.M. 3).
13041. Single observation in Cambridge; three observations in the Revision in 1898.4 give  $\Delta$  R.A. =  $-0^{\circ}52$  and  $\Delta\delta = +1''0$ .
13057. Single observation in Cambridge; three observations in the Revision in 1899.1 give  $\Delta$  R.A. =  $0^{\circ}00$  and  $\Delta\delta = -0''0$ .
13061. Single observation in Cambridge; three observations in the Revision in 1898.7 give  $\Delta\delta = -0^{\circ}30$  and  $\Delta\delta = 0''0$ .
13062. Boss' P.G.C. 5651 (Paris 31310, Cinc. xii. 1217 and xiii. 1785, Lal. 42883-5) gives P.Ms.  $-^{\circ}0295$  and  $-''378$ .
13074. Rejected at Cambridge; Dec.  $1'$  too large. See List E.
13094. Single observation in Cambridge; three observations in the Revision in 1898.4 give, for  $1875^{\circ} 21^h 55^m 1^s.28 + 28^{\circ} 43' 51''0$ , with the note "*f. of 2.*" In the Catalogue the place is  $21^h 55^m 2^s.33 + 28^{\circ} 43' 53''0$ , and the  $\Delta\xi$  for this is  $-38$  and  $\Delta\eta = -9$  from two Oxford plates  $+29^{\circ} 64023$  and  $+28^{\circ} 67887$ , epoch 1897.2; these residuals appear to indicate that the Catalogue R.A. is  $1^s$  too late. There is no star in the Oxford measures so near to 13094 as  $1^s$ , and it is uncertain which is the other star referred to unless it be  $+28^{\circ} 67868$  and  $+29^{\circ} 64022$ , about  $15^s$  earlier,  $24''$  south, and  $10.5$  mag.



NOTES.

LIST D.—*continued*.

- Camb.  
No.
13139. Single observation in Cambridge; three observations in the Revision in 1899.1 give  $\Delta$  R.A. =  $-0^{\circ}.38$  and  $\Delta\delta = +0''.7$ .
13166. Rejected at Cambridge; Dec. 1' too large. See list E.
13168. Boss' P.G.C. 5673 gives P.Ms.  $+^{\circ}.0028$  and  $+^{\circ}.030$ .
13169. Double  $\beta$ .G.C. 13609, distance  $0''.20$ , mags. 8.5 and 9.5. Single in Oxford  $+29^{\circ} 64137$  and  $+30^{\circ} 68412$ .
13171. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A. =  $-0''.58$  and  $\Delta\delta = 0''.0$ .
13175. Boss' P.G.C. 5681 (Brad. 2895) gives P.Ms.  $+^{\circ}.0024$  and  $-^{\circ}.017$ .
13177. Two plates, centre  $+25^{\circ}$ , R.A.  $22^h 4^m$ , epochs 1892.7 and 1904.7, give  $\Delta\xi = 0$  and  $\Delta\eta = -5$ : total P.M.  $12''.5$  a century (L.P.M. 5).
13178. The Cambridge Catalogue says, "Double; *n.f.*"  $\beta$ .G.C. 11485, distance  $6'' \pm$ , mags. 9 and 12. In Oxford  $+29^{\circ} 64139$ ,  $64138$  and  $+30^{\circ} 68415$ ,  $68414$ : in both zones the first mentioned star corresponds to the Cambridge star and is the *s.f.* The photographic magnitudes are 8.9 and 9.3.
13179. Two plates, centre  $+27^{\circ}$ , R.A.  $22^h 4^m$ , epochs 1892.7 and 1907.7, give  $\Delta\xi = 0$  and  $\Delta\eta = -8$ : total P.M.  $16''.0$  a century (L.P.M. 3).
13230. Single observation in Cambridge; three observations in the Revision in 1898.5, marked "v. ft.," give  $\Delta$  R.A. =  $-0^{\circ}.71$  and  $\Delta\delta = +0''.4$ .
13270. Single observation in Cambridge; three observations in the Revision in 1899.4 give  $\Delta$  R.A. =  $-0^{\circ}.28$  and  $\Delta\delta = +2''.6$ .
13283. Two plates, centre  $+25^{\circ}$ , R.A.  $22^h 4^m$ , epochs 1892.7 and 1904.7, give  $\Delta\xi = -5$  and  $\Delta\eta = -8$ : total P.M.  $23''.4$  a century (L.P.M. 5). Also in Cinc. xii. 1231 and xiii. 1807.
13292. Boss' P.G.C. 5730 gives P.Ms.  $+^{\circ}.0034$  and  $-^{\circ}.002$ .
13305. The Cambridge Catalogue says, "Close double; middle."  $\beta$ .G.C. 11599 ( $\Sigma$  2881), distance  $1''.76$ , mags. 7.7 and 8.2. Single in Oxford  $+28^{\circ} 68890$ ,  $+29^{\circ} 64488$ , and  $+30^{\circ} 69030$ .
13358. Single observation in Cambridge; three observations in the Revision in 1898.5, marked "p. of 3," gives  $\Delta$  R.A. =  $-0^{\circ}.44$  and  $\Delta\delta = +0''.7$ . The three stars in Oxford  $+27^{\circ} 66415$ ,  $66416$ ,  $66417$ , and  $+28^{\circ} 68471$ ,  $68472$ ,  $68473$ ; the first of each three is the Cambridge star, but the photo. mag. of the third star is the brightest in each Zone; the second star is also brighter in Zone  $+27^{\circ}$ .
13379. Single observation in Cambridge; three observations in the Revision in 1898.5 give the same R.A. and  $\Delta\delta = -1''.5$ .
13384. Boss' P.G.C. 5763 (Brad. 2946) gives P.Ms.  $+^{\circ}.0004$  and  $-^{\circ}.002$ .
13402. The Cambridge Catalogue has a note, "Double; following."  $\beta$ .G.C. 11695, distance  $8'' \pm$ , mags. 11 and 11. Oxford  $+27^{\circ} 66875$ ,  $66874$  and  $+28^{\circ} 69122$ ,  $69121$ .
13409. Single observation in Cambridge; three observations in the Revision in 1898.2 give  $\Delta$  R.A. =  $-0^{\circ}.52$  and  $\Delta\delta = -2''.8$ .
13411. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A. =  $-0^{\circ}.92$  and  $\Delta\delta = +1''.5$ .
13426. Rejected at Cambridge; Dec. 2° too large. It is the same star as G. 13425.
13431. Single observation in Cambridge; three observations in the Revision in 1899.1 give  $\Delta$  R.A. =  $-0^{\circ}.37$  and  $\Delta\delta = +1''.4$ .
13471. Single observation in Cambridge; three observations in the Revision in 1898.2 give  $\Delta$  R.A. =  $-0^{\circ}.50$  and  $\Delta\delta = +0''.3$ .
13478. Boss' P.G.C. 5798 gives P.Ms.  $+^{\circ}.0018$  and  $-^{\circ}.018$ .
13492. Two plates, centre  $+25^{\circ}$ , R.A.  $22^h 28^m$ , epochs 1892.8 and 1904.7, give  $\Delta\xi = +4$  and  $\Delta\eta = -4$ : total P.M.  $14''.3$  a century (L.P.M. 5).
13527. Single observation in Cambridge; three observations in the Revision in 1898.2 give  $\Delta$  R.A. =  $-0^{\circ}.44$  and  $\Delta\delta = +2''.7$ .
13570. The Cambridge Catalogue says, "Double; middle." Not in  $\beta$ .G.C. Oxford  $+29^{\circ} 65810$ ,  $65811$  and  $+30^{\circ} 70242$ ,  $70243$ .
13621. Double in  $\beta$ .G.C. 11880; distance  $0''.93$ , mags. 8.9 and 12.8 (Lick Observatory Bulletin, No. 29). The fainter star is not separately shown on the Oxford plates.
13632. The Cambridge Catalogue says, "Close, double; preceding." In  $\beta$ .G.C. 11897 ( $\Sigma$  3134), distance  $6''.06$ , mags. 9.0 and 9.3. Oxford  $+29^{\circ} 65890$ ,  $65891$  and  $+30^{\circ} 70715$ ,  $70716$ .
13646. Boss' P.G.C. 5858 ( $\alpha$  Pegasi) gives P.Ms.  $-^{\circ}.0005$  and  $-^{\circ}.035$ .
13650. Two plates, centres  $+28^{\circ}$ , R.A.  $22^h 39^m$ , epochs 1892.7 and 1907.5, give  $\Delta\xi = +8$  and  $\Delta\eta = -1$ : total P.M.  $16''.2$  a century (L.P.M. 1).
13660. Boss' P.G.C. 5865 ( $\eta$  Pegasi) gives P.Ms.  $+^{\circ}.0008$  and  $-^{\circ}.035$ .
13664. Two plates, centre  $+29^{\circ}$ , R.A.  $22^h 43^m$ , epochs 1894.9 and 1906.9, give  $\Delta\xi = +9$  and  $\Delta\eta = 0$ : total P.M.  $22''.5$  a century (L.P.M. 4).



LIST D.—*continued*.

- Camb.  
 No.
13673. Two plates, centre  $+29^\circ$ , R.A.  $22^h 43^m$ , epochs 1894·9 and 1906·9, give  $\Delta\xi = -4$  and  $\Delta\eta = -5$ : total P.M.  $16''\cdot 0$  a century (L.P.M. 4).
13680. Single observation in Cambridge; three observations in the Revision in 1898·8 give  $\Delta$  R.A.  $= +0''\cdot 27$  and  $\Delta\delta = +3''\cdot 6$ .
13684. Two plates, centre  $+29^\circ$ , R.A.  $22^h 43^m$ , epochs 1894·9 and 1906·9, give  $\Delta\xi = -7$  and  $-1$ : total P.M.  $17''\cdot 8$  a century (L.P.M. 4).
13685. Two plates, centre  $+29^\circ$ , R.A.  $22^h 43^m$ , epochs 1894·9 and 1906·9, give  $\Delta\xi = -11$  and  $-14$ : total P.M.  $44''\cdot 5$  a century (L.P.M. 4). Also Cinc. xiii. 1863.
13716. Two plates, centre  $+29^\circ$ , R.A.  $22^h 43^m$ , epochs 1894·9 and 1906·9, give  $\Delta\xi = -4$  and  $\Delta\eta = -6$ : total P.M.  $18''\cdot 0$  a century (L.P.M. 4).
13727. Two plates, centre  $+29^\circ$ , R.A.  $22^h 43^m$ , epochs 1894·9 and 1906·9, give  $\Delta\xi = +6$  and  $\Delta\eta = -1$ : total P.M.  $15''\cdot 2$  a century (L.P.M. 4).
13750. Single observation in Cambridge; four observations in the Revision in 1898·3 give  $\Delta$  R.A.  $= +0''\cdot 09$  and  $\Delta\delta = +1''\cdot 4$ .
13751. The Cambridge Catalogue says, "Double; north."  $\beta$ .G.C. 12014 ( $\Sigma$  2949), distance  $11''\cdot 13$ , mags. 8·8 and 10·5. Oxford  $+29^\circ 66509, 66508$ ;  $+29^\circ 66921, 66920$ ; and  $+30^\circ 71220, 71219$ .
13754. Two plates, centre  $+29^\circ$ , R.A.  $22^h 43^m$ , epochs 1894·9 and 1906·9, give  $\Delta\xi = -2$  and  $\Delta\eta = -6$ : total P.M.  $15''\cdot 7$  a century (L.P.M. 4).
13807. Single observation in Cambridge; three observations in the Revision in 1898·1 give  $\Delta$  R.A.  $= +0''\cdot 19$  and  $\Delta\delta = +0''\cdot 6$ .
13815. The Cambridge Catalogue says, "Double; south."  $\beta$ .G.C. 12095 ( $\Sigma$  2967), distance  $6''\cdot 67$ , mags. 8·2 and 9·8. Oxford  $+27^\circ 68580, 68581$  and  $+28^\circ 71224, 71223$ .
13838. Single observation in Cambridge; three observations in the Revision in 1898·1, marked "s of 2," give  $\Delta$  R.A.  $= -0''\cdot 64$  and  $\Delta\delta = +0''\cdot 2$ .
13841. Rejected at Cambridge; Dec. 1' too small. See List E.
13858. Fundamental star,  $\beta$  Pegasi. It is variable in magnitude 2·2 to 2·7. Boss' P.G.C. 5940 gives P.M.  $+''\cdot 0144$  and  $+''\cdot 133$ .
13874. Single observation in Cambridge; three observations in the Revision in 1898·5 give  $\Delta$  R.A.  $= +0''\cdot 06$  and  $\Delta\delta = -0''\cdot 2$ .
13894. Boss P.G.C. 5954 (Brad. 3057) gives P.Ms.  $0000$  and  $-''\cdot 038$ .
13952. Boss' P.G.C. 5974 (Brad. 3073) gives P.Ms.  $-''\cdot 0144$  and  $-''\cdot 122$ . Also in Cinc. xii. 1284 and xiv. 1961.
13985. Cinc. xiv. 1967 (Brad. 3079) gives P.Ms.  $+''\cdot 0009$  and  $+''\cdot 000$ .
13992. Boss' P.G.C. 5982 (Brad. 3080) gives P.Ms.  $+''\cdot 0011$  and  $-''\cdot 003$ .
13996. Cambridge—W.B. is  $+1''\cdot 37$  and  $+2''\cdot 6$ . See Camb. A.G.C., Introduction, p. (10).
14030. Two plates, centre  $+29^\circ$ , R.A.  $23^h 19^m$ , epochs 1894·9 and 1906·9, give  $\Delta\xi = +30$  and  $\Delta\eta = -4$ : total P.M.  $75''\cdot 4$  a century (L.P.M. 4).
14033. The Cambridge Catalogue has a note, "Double; following." Not in  $\beta$ .G.C. It is not clear from the Oxford Zones,  $+25^\circ 81498$  and  $+26^\circ 78569$ , which is the other star that forms the double; Camb. 14026 precedes by  $22''$  and is  $2\frac{1}{2}'$  south.
14034. Single observation in Cambridge; three observations in the Revision in 1898·9 give  $\Delta$  R.A.  $= -0''\cdot 53$  and  $\Delta\delta = +0''\cdot 1$ .
14057. Two plates, centre  $+29^\circ$ , R.A.  $23^h 19^m$ , epochs 1894·9 and 1906·9, give  $\Delta\xi = +5$  and  $\Delta\eta = -4$ : total P.M.  $14''\cdot 9$  a century (L.P.M. 4).
14090. Two plates, centre  $+29^\circ$ , R.A.  $23^h 19^m$ , epochs 1894·9 and 1906·9, give  $\Delta\xi = -2$  and  $\Delta\eta = -5$ : total P.M.  $13''\cdot 4$  a century (L.P.M. 4).
14094. Two plates, centre  $+29^\circ$ , R.A.  $23^h 19^m$ , epochs 1894·9 and 1906·9, give  $\Delta\xi = +6$  and  $\Delta\eta = 0$ : total P.M.  $14''\cdot 9$  a century (L.P.M. 4).
14105. Single observation in Cambridge; four observations in the Revision in 1898·7 give  $\Delta$  R.A.  $= -0''\cdot 40$  and  $\Delta\delta = +2''\cdot 4$ .
14109. Two plates, centre  $+26^\circ$ , R.A.  $23^h 20^m$ , epochs 1896·8 and 1907·8, give  $\Delta\xi = +4$  and  $\Delta\eta = +4$ : total P.M.  $19''\cdot 2$  a century (L.P.M. 2).
14122. Double  $\beta$ .G.C. 12396, distance  $0''\cdot 45$ , mags. 9·2 and 9·2. Lick Observatory Bulletin No. 29.
14159. Double  $\beta$ .G.C. 12437, distance  $4''\cdot 34$ , mags. 8·6 and 13·6. Lick Observatory Bulletin No. 29.
14176. The Cambridge Catalogue says, "Close double; following."  $\beta$ .G.C. 12453 ( $\Sigma$  3026), distance  $3''\cdot 21$ , mags. 8·8 and 9·3. Oxford  $+28^\circ 72638$  (measured as single, but noted in the original measures as "double") and  $+29^\circ 68671, 68670$ .
14195. Cinc. xii. 1314 (Lal. 46343-5) gives P.Ms.  $+''\cdot 023$  and  $+''\cdot 20$ .
14226. Single observation in Cambridge; four observations in the Revision in 1898·6 give  $\Delta$  R.A.  $= -0''\cdot 50$  and  $\Delta\delta = +0''\cdot 6$ .



LIST D.—*continued*.

- Camb.  
No.
14230. Single observation in Cambridge; four observations in the Revision in 1898.4, of the "p. of 2," give  $\Delta$  R.A. =  $-0^{\circ}.61$  and  $\Delta\delta = +0''.6$ .
14239. Boss' P.G.C. 6094 (Brad. 3160) gives P.Ms.  $+^{\circ}.0054$  and  $-^{\circ}.036$ .
14248. Single observation in Cambridge; three observations in the Revision in 1898.2 give  $\Delta$  R.A. =  $-0^{\circ}.90$  and  $\Delta\delta = -0''.9$ .
14250. Large P.M. in R.A. about  $0^{\circ}.08$  a year; mag. 8.7; the Cambridge Catalogue (p. 10) gives C—W.B. =  $+3^{\circ}.67$  and  $+2''.1$ .
14272. Double.  $\beta$ .G.C. 13657, distance  $2''.52$ , mags. 9.0 and 10.2. Single in Oxford  $+30^{\circ} 73618$ .
14290. Cinc. xiv. 2007 (Lal. 46640) gives P.Ms.  $-^{\circ}.0126$  and  $-^{\circ}.030$ .
14304. Boss' P.G.C. 6114 (Brad. 3171) gives P.Ms.  $+^{\circ}.0054$  and  $+^{\circ}.019$ .
14307. Double.  $\beta$ .G.C. 12583, distance  $0''.20$ , mags. 7.3 and 7.8. Lick Bulletin, No. 29. Single in Oxford Zones  $+27^{\circ} 70117$ ;  $+27^{\circ} 70321$ ; and  $+28^{\circ} 72852$ .
14315. Cinc. xiv. 2008 gives P.Ms.  $+^{\circ}.012$  and  $.00$ .
14329. The Cambridge Catalogue says, "Double; following." Not in  $\beta$ .G.C. Oxford  $+28^{\circ} 73551$ ,  $73550$  and  $+29^{\circ} 69588$ ,  $69587$ .
14335. Rejected at Cambridge; Dec. 1' too small. See List E.
14342. Single observation in Cambridge: four observations in the Revision in 1898.6 give  $\Delta$  R.A. =  $+0^{\circ}.01$  and  $\Delta\delta = +1''.1$ .
14346. P.M.; not in Boss' P.G.C. The Cambridge Catalogue Introduction (p. 10) gives Camb.—Lal. =  $+3^{\circ}.38$  and  $-0''.3$ .
14350. Single observation in Cambridge; three observations in the Revision in 1898.6 give  $\Delta$  R.A. =  $-0^{\circ}.46$  and  $\Delta\delta = +0''.6$ .
14355. Double.  $\beta$ .G.C. 12636, distance  $1''.54$ , mags. 9.3 and 9.8. Lick Bulletin, No. 29. Single in Oxford  $+27^{\circ} 70388$  and  $+28^{\circ} 73394$ .
14366. Single observation in Cambridge; three observations in the Revision in 1898.5 give  $\Delta$  R.A. =  $-0^{\circ}.14$  and  $\Delta\delta = -1''.5$ .
14367. Single observation in Cambridge; four observations in the Revision in 1899.2 give  $\Delta$  R.A. =  $-0^{\circ}.40$  and  $\Delta\delta = +2''.4$ .
14370. Double.  $\beta$ .G.C. 12650, distance  $1''.58$ , mags. 8.7 and 13.2; Lick Bulletin, No. 29. Single in Oxford  $+27^{\circ} 70328$ ;  $+27^{\circ} 70699$ ; and  $+28^{\circ} 73316$ .
14376. Two plates, centre  $+29^{\circ}$ , R.A.  $23^h 55^m$ , epochs 1894.9 and 1906.9, give  $\Delta\xi = +5$  and  $-5$ : total P.M.  $17''.7$  a century (L.P.M. 4).
14394. Boss' P.G.C. 6162 (Brad. 3192) gives P.Ms.  $+^{\circ}.0035$  and  $-^{\circ}.043$ . The Cambridge Catalogue has a note, "Close double; middle."  $\beta$ .G.C. 12686, see note in Vol. II., p. 1044, which says that the star was examined for duplicity three times with the 40-inch telescope, and that the star appeared to be single in 1901. Single in Oxford  $+26^{\circ} 116$ ;  $+26^{\circ} 80210$ ; and  $+27^{\circ} 70566$ .
14413. This star is 85 Pegasi; it has large P.Ms., and is a binary of exceptional interest. Boss' P.G.C. 6172 (Brad. 3198) gives P.Ms.  $+^{\circ}.0622$  and  $-^{\circ}.986$ ; also a special note in his Preliminary General Catalogue, p. 278, where its irregular P.M. is discussed and its binary period is mentioned as  $25^y.7$ . Also in Cinc. xii. 1337 and xiii. 1993. In  $\beta$ .G.C. 12701, distance  $0''.67$  (A.B.), mags. 6.0 and 12.5, distance  $33''.03$  (A.C.), mag. 8.5. In Oxford  $+26^{\circ} 132$  (A.B), 131 (C.) is Camb. 14414, and  $+27^{\circ} 70592$  (A.B.), 70591 (C.).
14424. Double.  $\beta$ .G.C. 12723, distance  $0''.46$  (A.B.), mags. 8.8 and 9.0, and  $4''.97$ , ( $\frac{A.B.}{2}$  and C.) 8.4 and 9.0. The Cambridge Catalogue has a note, "close double; s.f." In Oxford  $+27^{\circ} 70735$ ,  $70734$  and  $+28^{\circ} 39$ , 38. Lick Bulletin, No. 29.
14432. Double.  $\beta$ .G.C. 13665; distance  $0''.44$ , mags. 8.2 and 10.5. Oxford  $+29^{\circ} 194$ ;  $+29^{\circ} 70182$ ; and  $+30^{\circ} 94$ .



## LIST E.

THE Cambridge Catalogue (1875·0 *Astronomische Gesellschaft* scheme) contains about 2000 stars of which only a single observation was made. The residuals for these stars are naturally affected with large accidental errors. Often they were omitted in forming the equations for determination of plate constants, though the residuals have been calculated and are given above in the usual way, noticeable only by their general excessive size.

But in a certain number of cases there were mistakes,—errors of 1<sup>min.</sup> in R.A. or 5' in Decl. say, or wrong identifications, &c. To print residuals in such cases would have served no useful purpose. Instead of this, new reductions have been made, using the revised places kindly communicated in M.S. in 1906 by the Director of the Cambridge Observatory (see p. 91 above: Cambridge “Revision”). The standard co-ordinates formed from these revised places will be found in the usual place at the end of the Volumes, distinguished by a letter *a* or *b* following the Cambridge number, and the meridian places themselves have been given in most cases in special lists. But it will doubtless be convenient to have collected, as in List E, the “revised” meridian places both for 1875·0 and 1900·0; and the mean residuals corresponding to them.

*Cambridge Places corrected in the Appendix and Revision, and used at Oxford.*

Cambridge Nos.		Revision used at Oxford.						Oxford.			
Old.	New.	Obs.	Epoch.	R.A. 1875·0.	R.A. 1900·0.	Dec. 1875·0.	Dec. 1900·0.	Epoch.	Plates.	$\Delta\delta$ .	$\Delta\eta$ .
				h m s	h m s	° ' "	° ' "				
419	420a	5	99·3	0 37 2·95	0 38 22·54	+26 48 4·8	+26 56 19·4	96·3	2	+ 1	— 1
506	506a	1	73·8	0 44 28·63	0 45 49·03	+28 38 55·6	+28 47 7·3	98·9	2	+16	+ 7
875	875a	1	77·9	1 27 38·72	1 29 1·69	+26 8 55·1	+26 16 39·5	97·8	2	— 6	+ 3
880	872a	1	99·9	1 27 3·99	1 28 26·59	+24 47 43·5	+24 55 28·6	00·5	5	+ 2	+ 2
1027	1027a	3	98·9	1 46 15·69	1 47 41·17	+29 51 44·4	+29 59 12·4	02·5	5	+ 3	— 1
1096	1096a	1	73·9	1 53 42·68	1 55 7·20	+25 40 2·2	+25 47 22·4	00·8	3	— 3	— 2
1927	1927a	1	83·1	3 49 14·67	3 50 45·41	+26 14 59·3	+26 19 28·4	96·0	2	—11	— 8
...	1995a	3	95·8	3 59 16·83	4 0 49·49	+28 39 40·6	+28 43 51·2	00·5	2	— 2	— 2
2370	2370a	1	87·1	5 7 51·60	5 9 22·96	+24 1 46·1	+24 3 37·5	09·9	1	—12	+ 6
2403	2403	3	96·1	5 10 51·28	5 12 26·26	+29 2 49·2	+29 4 34·2	99·1	2	+ 6	0
3206	3206	3	96·1	6 17 5·90	6 18 38·65	+25 34 2·2	+25 33 23·1	99·8	3	+ 6	— 1
3324	3306	3	98·5	6 25 3·54	6 26 37·68	+27 33 44·9	+27 32 48·4	95·1	2	+14	+ 3
3526	3526a	1	75·2	6 42 39·05	6 44 14·57	+29 42 5·7	+29 40 31·2	00·6	4	—10	+ 2
3686	3690a	3	98·5	6 54 28·24	6 56 2·24	+27 55 36·4	+27 53 36·7	97·6	2	+ 4	— 3
3945	3944	3	79·2	7 16 28·37	7 18 1·99	+28 4 12·8	+28 1 27·0	01·3	5	+ 3	— 3
4113	4113a	3	98·5	7 33 12·94	7 34 46·52	+28 42 39·2	+28 39 19·3	05·2	3	+ 5	— 1
6048	6049a	3	97·3	12 10 34·73	12 11 50·71	+27 19 45·8	+27 11 25·0	00·6	2	+ 9	— 2
7086	7086	3	76·7	15 2 3·85	15 3 9·33	+25 24 1·7	+25 18 11·3	02·3	3	—71	+41
7620	7620	3	96·5	16 18 4·68	16 19 4·06	+30 1 53·4	+29 58 18·7	00·4	3	+ 8	+ 7
8632	8632a	1	73·5	17 58 24·93	17 59 23·97	+28 0 5·5	+28 0 3·1	01·0	4	+ 2	+ 7
8884	8885	3	79·3	18 20 12·72	18 21 13·62	+25 33 1·2	+25 33 46·5	98·1	4	— 5	+ 1
9104	9090a	3	98·3	18 33 23·68	18 34 22·40	+28 48 29·3	+28 49 43·6	98·0	2	+ 5	0
9317	9308a	4	98·3	18 47 7·00	18 48 7·01	+27 11 17·7	+27 13 1·1	98·6	3	+ 3	— 1
9389	9390a	4	98·2	18 51 52·47	18 52 52·85	+26 45 58·6	+26 47 52·2	96·3	3	0	0
9410	9410a	3	98·3	18 52 39·53	18 53 41·21	+24 56 52·2	+24 58 47·5	01·1	2	0	+ 4
9412	9520a	2	80·7	18 57 56·07	18 58 56·02	+27 31 31·9	+27 33 38·4	98·7	3	— 2	0
9467	9472b	1	97·7	18 55 29·96	18 56 30·91	+26 2 56·5	+26 4 57·3	98·2	5	+ 9	+ 3
9470	9472a	2	98·1	18 55 29·57	18 56 28·94	+28 15 53·2	+28 17 55·5	00·9	3	+14	— 1
9892	9870a	1	79·7	19 16 52·20	19 17 51·33	+29 15 12·1	+29 17 58·1	01·2	2	+ 6	— 3
9900	9900a	1	98·7	19 18 11·44	19 19 10·39	+29 33 3·1	+29 35 51·9	01·2	2	+ 9	0
9913	9913	3	90·6	19 18 52·08	19 19 52·58	+27 31 10·0	+27 34 1·3	96·3	3	+ 5	— 7
9924	9924a	1	75·7	19 19 14·18	19 20 14·62	+27 29 41·1	+27 32 32·0	96·3	3	— 1	— 1
9999	9999a	3	98·0	19 22 20·36	19 23 29·53	+29 25 49·9	+29 28 47·4	96·6	2	+11	+ 1



NOTES.

*Cambridge Places corrected in the Appendix and Revision, and used at Oxford.*

Cambridge Nos.		Revision used at Oxford.						Oxford.			
Old.	New.	Obs.	Epoch.	R.A. 1875'o.	R.A. 1900'o.	Dec. 1875'o.	Dec. 1900'o.	Epoch.	Plates.	$\Delta\xi$ .	$\Delta\eta$ .
				h m s	h m s	° ' "	° ' "				
10370	10370a	1	74'8	19 40 24'08	19 41 24'49	+28 26 59'6	+28 30 33'3	00'7	3	+ 5	- 1
10587	10583a	3	99'0	19 49 42'57	19 50 43'42	+28 19 50'6	+28 23 42'5	99'5	3	0	+ 1
11003	11002a	4	99'2	20 7 36'58	20 8 37'54	+29 11 25'5	+29 15 51'4	97'7	2	+ 3	0
11207	11198a	3	98'4	20 16 54'95	20 17 56'75	+29 18 27'9	+29 23 12'6	97'7	2	-11	- 6
11329	11322b	1	90'7	20 21 47'42	20 22 50'00	+27 35 58'1	+27 40 49'8	95'7	2	- 6	+ 4
11437	11437a	3	98'4	20 26 17'72	20 27 20'11	+28 25 16'6	+28 30 16'3	93'7	2	+ 6	- 1
11846	11846a	3	98'4	20 46 17'19	20 47 22'06	+25 32 1'9	+25 37 35'7	93'6	3	- 1	- 1
12036	12036a	...	...	20 57 15'56	20 58 18'87	+29 28 20'1	+29 34 12'0	95'3	2	-11	+ 2
12138	12138a	3	99'1	21 1 36'73	21 2 41'12	+27 53 51'6	+27 59 50'2	98'2	4	+12	- 5
12294	12294a	...	...	21 9 59'68	21 11 3'60	+29 43 1'9	+29 49 11'9	97'7	2	0	+ 5
12308	12308a	...	...	21 11 19'46	21 12 23'58	+29 30 6'1	+29 36 18'5	97'7	2	- 7	- 1
12446	12446a	2	99'3	21 17 57'39	21 19 2'70	+27 55 40'2	+28 2 2'2	95'3	2	0	- 1
12505	12489a	...	...	21 20 24'68	21 21 30'20	+27 48 1'0	+27 54 26'4	95'3	2	-15	+ 5
12569	12566a	3	98'5	21 24 21'52	21 25 27'42	+27 29 5'2	+27 35 36'1	98'3	2	+ 8	0
12850	12848a	1	97'9	21 39 10'14	21 40 16'64	+28 10 51'0	+28 17 41'3	03'3	3	+17	0
12917	12918a	3	98'8	21 43 11'62	21 44 17'68	+29 48 19'2	+29 55 14'5	98'3	2	+14	- 2
13074	13074a	3	98'8	21 53 39'76	21 54 47'17	+28 17 28'9	+28 24 36'6	97'2	2	+11	0
13166	13166a	3	98'5	21 59 25'14	22 0 32'89	+28 25 5'1	+28 32 19'3	93'7	2	+ 4	- 1
13841	13841a	3	98'5	22 55 47'28	22 56 59'05	+28 46 5'5	+28 54 7'6	94'2	2	+ 8	- 4
14335	14335a	3	98'5	23 47 19'65	23 48 35'53	+27 54 13'9	+28 2 34'6	95'4	3	- 1	0



## THE CAMBRIDGE MAGNITUDE EQUATION AND ITS VARIATIONS.

1. Measures on star photographs afford a ready means of determining the magnitude equation of the visual observations of stars shewn on them. The magnitude equation of the *measurer* of a photograph can be substantially eliminated by rotating the plate through  $180^\circ$  and remeasuring. Minute residual personal errors have been found for the means of two such direct (D) and reversed (R) measures: *e.g.* in dealing with spectrum lines to the highest order of precision; but such errors are small compared with visual errors and may for our present purpose be neglected. Magnitude equation may be introduced, however, by the *object-glass* as was first suggested by the writer in explanation of the large magnitude equation shewn by the Algiers Astrographic measures (see *Mon. Not. R.A.S.*, lxxv. p. 54 and p. 109): and may also be introduced as "driving-error." It is hoped that the Oxford measures are tolerably free from sensible errors of this kind; for instance, in discussing the observations of Eros for parallax, where the unit of measurement is much smaller than that adopted for the Astrographic Catalogue, Mr Hinks found evidence of sensible "guiding error" in one only out of thirty Oxford plates (*Mon. Not., R.A.S.*, lxiv. p. 714). Such errors, even where they exist, will not in any case seriously affect the main results of the following investigation, which shews that the magnitude equation of the Cambridge visual observations varied seriously from one year to another. The date at which these observations were made bears no relation to that at which the plates were taken or measured at Oxford: so that any residual photographic magnitude equation will certainly not sensibly affect the variation found.

2. The Cambridge observations were made for the most part by the same observer (Mr A. Graham) using the Eye and Ear method. The opportunity is thus specially valuable for noting the variations to which a single observer is liable when observing faint stars—for there is no doubt that the faintness of the star emphasizes these errors. At the end of the series another observer (Miss Walker) was introduced, and that her magnitude equation was conspicuously different from Mr Graham's, is manifest from the subjoined figures. But there is no way of identifying exactly which stars are to be allotted to each observer from the published observations. Possibly the original Note-books at Cambridge would shew this, but the only information we have at present is that quoted by Mr Bellamy (*Mon. Not. R.A.S.*, lxxiii. p. 89) from a letter of Mr Hinks, dated 1912, November 27:—

"The whole of the transits up to early in 1890 were taken by Mr Graham. After that Miss Walker began to observe occasionally, and gradually did more and more, so that by the end of 1893 she was doing it all." . . . "There is no record of any changes in the method of observation, or of the state of the observer's sight. It is known that Mr Graham was going blind in one eye during his later years, that is, for some time before 1892, and it is believed that he altered the eye which he used; but that is uncertain."

It seems, however, unnecessary to make special hypotheses about this particular observer. When the present investigation had been practically completed, there was received from Harvard, Vol. lxvii. of the *Annals* giving the Catalogue of Professor Arthur Searle for  $-10^\circ$  to  $-14^\circ$ . He found very similar troubles with changes of magnitude equation, as the following paragraphs from his Introduction (p. 20) shew:—

"We have now to consider what corrections, if any, should be applied to the observations made here. The correction for magnitude seems so large, both in right



ascension and in declination, that its neglect would lead to some practical inconvenience in the use of the completed catalogue. A comet, for example, in crossing this zone, would appear to have its course noticeably deflected.

"It is true that no system of corrections can be devised at present which is likely to be entirely satisfactory, and that subsequent discussion may lead to further changes. But even an approximate improvement may be a matter of immediate convenience, and will in no way interfere with additional corrections hereafter."

3. The tendency of the evidence is to show that the systematic errors of visual observations of faint stars are so large that they are unsuitable for use in finding the constants of photographic plates, unless the errors can first be corrected by some photographic scrutiny. Hence it seems obvious that it is better to proceed straight to the photographic observations at once, as can be done by any of a variety of methods. The conservatism of astronomers has tied them to visual meridian methods far too long already, and it is much to be desired that a period of experiment should be entered upon, as a preliminary to the adoption of new methods of photographic observation. It is especially to be hoped that the idea of repeating the observations of reference stars in the manner organised by the *Astronomische Gesellschaft* about 1875 will be dropped. In justification of the repetition, it is assumed that the errors found in the places of the reference stars are chiefly due to proper motions between 1875 and 1900, whereas they are chiefly due to the errors of the observations themselves, proper motions being relatively quite insignificant except in rare instances. It is not difficult to devise much cheaper and much more accurate methods of getting the places of these reference stars, as experiments have already shown: though it may fairly be regarded as an open question whether the *best* method of doing so has yet been attained even approximately.

4. References to former papers on the Cambridge Magnitude Equation are :—

A. R. Hinks, "Preliminary Note on a Personal Equation depending on Magnitude affecting the Right Ascensions of the Stars in the Cambridge Zone Catalogue of the *Astronomische Gesellschaft*, and its Determination from Astrographic Catalogue Plates" (*Mon. Not. R.A.S.*, lvii. p. 473).

H. H. Turner, "On the Variation of Personal Equation with Stellar Magnitude in Observations made at Cambridge, Berlin, and Greenwich, as deduced from Measures of Photographic Plates taken at Oxford" (*Mon. Not.*, lx. p. 3).

F. A. Bellamy, "Note on the Cambridge Magnitude Equation" (*Mon. Not.*, lxxiii. p. 88).

5. In the first two of these papers the magnitude equation was treated as sensibly constant during the period of observation. Suspicion of its variability was aroused when the first photographic experiments for the determination of places of reference stars were made (see *Mon. Not. R.A.S.*, lxxii. p. 110). In the third paper, Mr Bellamy attempted, through the "single observations" (which, though affected with larger accidental errors, bear a definite date) to determine the epochs of possible



discontinuous changes; and his attempt was not unsuccessful. His results may be thus summarised:—

Period of Observation at Cambridge.	Bright Stars. 9.1 and Brighter.	Faint Stars. 9.2 and Fainter.	F—B.
1872.4–1874.8	–0.21 <sub>35</sub>	–0.45 <sub>370</sub>	–0.24
1874.9–1877.1	–0.39 <sub>18</sub>	–0.42 <sub>114</sub>	–0.03
1877.2–1879.3	+0.36 <sub>14</sub>	–0.96 <sub>88</sub>	–1.32
1879.4–1883.6	–0.66 <sub>31</sub>	–1.56 <sub>373</sub>	–0.90
1883.7–1887.1	–0.24 <sub>32</sub>	–0.69 <sub>137</sub>	–0.45
1887.2–1890.0	–1.14 <sub>22</sub>	–1.62 <sub>66</sub>	–0.48
1890.1–1892.9	+0.03 <sub>14</sub>	–1.68 <sub>50</sub>	–1.71
1893.0–End.	+0.90 <sub>3</sub>	+2.64 <sub>13</sub>	+1.74

Owing to the small number of single observations of the brighter stars, however, the differences F—B are clearly affected with considerable accidental errors, and it was deemed advisable not to use this investigation as a guide, but simply to tabulate the results for each year of observation at Cambridge separately. Since only the mean dates were available, which might refer to observations scattered widely over the whole period, there will be a tendency to smooth out discontinuities, but this cannot be helped. Analysis of the separate observations can be made when the Cambridge Ledgers are published, but is rather too serious a piece of work to be undertaken at this Observatory.

6. The procedure adopted was to copy on to cards data as below:—

9.0			
1272	89.9	+6	0

of which 9.0 is the magnitude given in the Cambridge Catalogue, 1272 is the Cambridge Number, 1889.9 is the Cambridge mean epoch of observation, and  $\Delta x = +6$ ,  $\Delta y = 0$  are the mean corrections to the Cambridge place shown by all the Oxford plates on which it occurs, in units of 0".3.

These cards were then distributed into twelve baskets according to the magnitudes grouped as follows:—

2.3 to 6.9	8.2 to 8.4	9.0	9.3
7.0 to 7.8	8.5 to 8.7	9.1	9.4
7.9 to 8.1	8.8 to 8.9	9.2	9.5

(The first group was subdivided later.)

Then each magnitude group was arranged according to date, and the  $\Delta x$  and  $\Delta y$  separately discussed.



## CAMBRIDGE MAGNITUDE EQUATION AND ITS VARIATIONS.

*The Variation of  $\Delta x$ .*

7. Taking first the  $x$  residuals, the mean results for the individual years were as follows:—

TABLE I.—BRIGHTER STARS. (The unit is 0.0001 res. int., or 0".03.)  
*Magnitudes.*

Date.	2.3-6.9.		7.0-7.8.		7.9-8.1.		8.2-8.4.		8.5-8.7.		8.8-8.9.	
	$\Delta x$ .	No. of Stars.	Res.	No. of Stars.	Res.	No. of Stars.	Res.	No. of Stars.	Res.	No. of Stars.	Res.	No. of Stars.
1872	...	...	+30	1	...	...	...	...	-50	2	0	2
1873	+41	8	+26	29	+36	18	+12	13	+22	29	+14	23
1874	+42	43	+34	107	+22	75	+25	84	+23	168	+7	129
1875	+56	46	+34	138	+32	100	+21	130	+23	230	+12	194
1876	+35	47	+29	139	+35	95	+24	99	+19	175	+10	177
1877	+37	33	+37	98	+15	62	+15	85	+16	149	+6	129
1878	+43	30	+41	106	+25	69	+16	75	+20	132	+9	164
1879	+33	32	+37	86	+25	62	+25	86	+21	152	+6	128
1880	+42	27	+27	54	+22	38	+21	87	+17	123	+6	114
1881	+53	27	+36	40	+26	29	+15	49	+14	93	+8	87
1882	+44	20	+26	33	+28	40	+20	46	+11	60	-2	58
1883	+40	12	+35	24	+23	31	+24	30	+13	68	+3	56
1884	+48	17	+41	37	+21	25	+18	18	+7	54	+7	52
1885	+33	13	+20	14	+39	8	+18	18	+6	39	-6	42
1886	+54	8	+24	15	+9	15	+7	14	-14	36	-3	26
1887	+23	3	+12	6	+28	6	+18	9	-2	24	-7	23
1888	+67	6	+20	9	+16	8	+5	8	+5	24	-1	17
1889	...	...	+20	6	-4	4	+18	8	+5	11	-2	5
1890	...	...	+22	4	+8	4	+12	6	-10	10	-8	4
1891	+60	2	...	...	+5	4	+40	3	-26	5	-40	4
1892	+45	2	+40	9	-3	3	-7	3	-8	12	-8	20
1893	+20	2	...	...	+23	3	+2	15	+11	14	+10	11
1894	...	...	...	...	...	...	...	...	...	...	+40	3
1895	...	...	...	...	...	...	...	...	-20	1	+35	2

TABLE II.—FAINTER STARS.

Date.	9.0.		9.1.		9.2.		9.3.		9.4.		9.5.	
	Res.	No. of Stars.	Res.	No. of Stars.	Res.	No. of Stars.	Res.	No. of Stars.	Res.	No. of Stars.	Res.	No. of Stars.
1872	-16	26	...	...	...	...	-37	7	-25	9	-32	56
1873	+2	97	-10	19	+7	15	-14	28	-22	27	-15	217
1874	+7	242	+6	55	-9	51	-2	61	-9	81	-5	143
1875	+3	324	+4	75	-4	69	-14	77	-17	90	-23	84
1876	+7	211	0	87	-4	54	-16	71	-28	79	-26	69
1877	+4	171	-3	70	-15	56	-14	74	-28	71	-31	66
1878	+2	166	-5	60	-11	52	-16	65	-26	62	-50	54
1879	-2	146	-10	73	-22	64	-21	64	-45	67	-55	73
1880	-3	129	-13	66	-14	68	-30	93	-43	91	-62	100
1881	-5	94	-14	66	-20	63	-36	72	-48	95	-71	122
1882	-15	79	-7	65	-17	60	-29	78	-44	67	-56	77
1883	-2	93	-11	62	-22	74	-31	56	-50	56	-55	59
1884	-7	70	-9	147	-16	84	-28	69	-31	51	-47	48
1885	-6	64	-10	85	-14	101	-29	60	-26	48	-48	49
1886	+1	39	-18	97	-12	85	-37	69	-43	48	-42	62
1887	-32	43	-30	63	-37	65	-46	60	-57	46	-51	31
1888	-18	29	-34	31	-34	30	-50	40	-48	38	-61	31
1889	-15	22	-19	21	-33	19	-11	20	-34	19	-33	15
1890	-37	12	-40	13	-29	23	-42	19	-33	12	-45	26
1891	-11	11	-13	7	-44	12	-57	9	-27	16	-20	10
1892	-26	13	+2	7	-46	8	-86	7	...	...	-34	11
1893	-11	31	+10	4	-25	15	-11	19	-2	25	+33	50
1894	+10	3	...	...	-2	4	+12	6	+42	10	+91	36
1895	+10	1	...	...	...	...	...	...	...	...	+60	3
1896	+10	1	...	...	...	...	...	...	...	...	+60	2
1897	...	...	...	...	...	...	...	...	...	...	+90	1



Study of these residuals suggested that substantial justice would be done by dividing the material into four groups, as follows:—

## GROUP I.—YEARS 1872–1878.

Camb. Mag. . .	6.0	6.8	7.4	8.0	8.3	8.6	8.8	9.0	9.1	9.2	9.3	9.4	9.5
Corrected . .	6.0	6.8	7.4	8.0	8.4	8.7	9.0	9.3	9.5	9.7	9.9	10.1	10.4
No. of Stars . .	120	81	625	423	507	885	819	1237	367	297	383	419	688
Observed $\Delta x$ . .	+47	+33	+36	+26	+21	+20	+9	+4	-1	-7	-13	-21	-21
Calculated $\Delta x$ . .	+42	+38	+33	+26	+20	+15	+9	+3	-1	-6	-11	-17	-25
O-C . . . .	+5	-5	+3	0	+1	+5	0	+1	0	-1	-2	-4	+4

The unit for  $\Delta x$  is  $\cdot 0001 = 0''.03$ , as before.

The Cambridge magnitudes resemble the B.D. magnitudes, and it is assumed that the same corrections may be applied to them as are found for the B.D. magnitudes in *Harvard Annals*, xxiii. p. 184. The calculated values are obtained from the formula

$$\Delta x = 42 - 2.0(m - 6.0) - 3.0(m - 6.0)^2$$

where  $m$  is the *corrected* magnitude.

## GROUP II.—YEARS 1879–1885.

Camb. Mag. . .	6.0	6.8	7.4	8.0	8.3	8.6	8.8	9.0	9.1	9.2	9.3	9.4	9.5
Corrected . .	6.0	6.8	7.4	8.0	8.4	8.7	9.0	9.3	9.5	9.7	9.9	10.1	10.4
No. of Stars . .	107	37	289	236	348	590	538	677	565	515	492	475	543
Observed $\Delta x$ . .	+41	+40	+34	+25	+23	+14	+2	-5	-11	-18	-32	-42	-62
Calculated $\Delta x$ . .	+44	+38	+33	+26	+19	+13	+5	-5	-12	-22	-31	-43	-64
O-C . . . .	-3	+2	+1	-1	+4	+1	-3	0	+1	+4	-1	+1	+2

The calculated values are from the formula

$$\Delta x = 44 - 7.5(m - 6.0) - 0.2(m - 6.0)^4.$$

## GROUP III.—YEARS 1886–1892.

Camb. Mag. . .	6.0	6.8	7.4	8.0	8.3	8.6	8.8	9.0	9.1	9.2	9.3	9.4	9.5
Corrected . .	6.0	6.8	7.4	8.0	8.4	8.7	9.0	9.3	9.5	9.7	9.9	10.1	10.4
No. of Stars . .	13	7	49	44	52	122	99	169	241	243	228	179	186
Observed $\Delta x$ . .	+66	+24	+22	+11	+12	-6	-6	-19	-23	-26	-43	-44	-45
Calculated $\Delta x$ . .	+46	+34	+24	+13	+4	-2	-10	-18	-23	-30	-36	-43	-54
O-C . . . .	+20	-10	-2	-2	+8	-4	+4	-1	0	+4	-7	-1	+9

The calculated values are from the formula

$$\Delta x = 46 - 15.0(m - 6.0) - 0.40(m - 6.0)^3.$$

The fit is not very good near the ends of the series; but it is not easy to make a better fit without a more elaborate formula.

## GROUP IV.—YEARS 1893–END.

Camb. Mag. . .	6.0	6.8	7.4	8.0	8.3	8.6	8.8	9.0	9.1	9.2	9.3	9.4	9.5
Corrected . .	6.0	6.8	7.4	8.0	8.4	8.7	9.0	9.3	9.5	9.7	9.9	10.1	10.4
No. of Stars . .	2	0	0	3	16	15	16	37	4	19	25	35	92
Observed $\Delta x$ . .	+25	..	...	+10	+2	+9	+19	-5	+18	-19	-6	+9	+59

The number of observations is here scarcely sufficient to warrant even an empirical formula; but it is clear that the magnitude equation is totally different.



# CAMBRIDGE MAGNITUDE EQUATION AND ITS VARIATIONS.

The formulæ for the different periods compare thus :—

Period.	Corrected Magnitude.					
	6 <sup>o</sup> .	7 <sup>o</sup> .	8 <sup>o</sup> .	9 <sup>o</sup> .	10 <sup>o</sup> .	11 <sup>o</sup> .
1872-8	+42	+37	+26	+9	-14	-43
1879-85	+44	+38	+26	+5	-37	-128
1886-92	+46	+30	+13	-10	-40	-79
1893-End	(+25)	...	(+10)	(+19)	(+2)	(+60)

## The $y$ Residuals.

It was provisionally assumed that the same grouping is applicable to the  $y$  residuals, for which the magnitude equation is much smaller, though still sensible.

### GROUP I.—YEARS 1872-78.

Camb. Mag. .	6 <sup>o</sup>	6.8	7.4	8 <sup>o</sup>	8.3	8.6	8.8	9 <sup>o</sup>	9.1	9.2	9.3	9.4	9.5
Corrected .	6 <sup>o</sup>	6.8	7.4	8 <sup>o</sup>	8.4	8.7	9 <sup>o</sup>	9.3	9.5	9.7	9.9	10.1	10.4
No. of Stars .	120	81	625	423	507	885	819	1237	367	297	383	419	688
Observed $\Delta y$ .	-12	-12	-4	-6	-4	-4	-4	-2	+6	+3	+2	+5	+4
Calculated $\Delta y$ .	-11	-8	-5	-2	-1	+1	+2	+3	+4	+5	+6	+7	+8
O-C .	-1	-4	+1	-4	-3	-5	-6	-5	+2	-2	-4	-2	-4

The adopted formula was deduced from Groups I. and II. together (in order to bring out the difference between the groups), viz. :—

$$\Delta y = -11 + 4.3(m - 6.0).$$

It will be seen that O-C is consistently negative, the mean value being  $-3 = -0''.09$ .

### GROUP II.—YEARS 1879-1885.

Camb. Mag. .	6 <sup>o</sup>	6.8	7.4	8 <sup>o</sup>	8.3	8.6	8.8	9 <sup>o</sup>	9.1	9.2	9.3	9.4	9.5
Corrected .	6 <sup>o</sup>	6.8	7.4	8 <sup>o</sup>	8.4	8.7	9 <sup>o</sup>	9.3	9.5	9.7	9.9	10.1	10.4
No. of Stars .	107	37	289	236	348	590	538	677	565	515	492	475	543
Observed $\Delta y$ .	-10	-5	-6	-6	-1	-1	0	+2	+4	+5	+6	+6	+12
Calculated $\Delta y$ .	-11	-8	-5	-2	-1	+1	+2	+3	+4	+5	+6	+7	+8
O-C .	+1	+3	-1	-4	0	-2	-2	-1	0	0	0	-1	+4

Same formula as for Group I., the mean O-C being now sensibly zero.

### GROUP III.—1886-1892.

Camb. Mag. .	6 <sup>o</sup>	6.8	7.4	8 <sup>o</sup>	8.3	8.6	8.8	9 <sup>o</sup>	9.1	9.2	9.3	9.4	9.5
Corrected .	6 <sup>o</sup>	6.8	7.4	8 <sup>o</sup>	8.4	8.7	9 <sup>o</sup>	9.3	9.5	9.7	9.9	10.1	10.4
No. of Stars .	13	7	49	44	52	122	99	169	241	243	228	179	186
Observed $\Delta y$ .	-1	+3	-6	-3	+4	+5	+7	+3	+4	+4	+6	+9	+6
Calculated $\Delta y$ .	-11	-8	-5	-2	-1	+1	+2	+3	+4	+5	+6	+7	+8
O-C .	+10	+11	-1	-1	+5	+4	+5	0	0	-1	0	+2	-2

Using still the same formula it appears that there is a slight change for the *brighter* stars, the faint stars being in accordance with the formula. But the number of bright stars is very small, and the change may be treated as accidental.

### GROUP IV.—1893-END.

Camb. Mag. .	6 <sup>o</sup>	6.8	7.4	8 <sup>o</sup>	8.3	8.6	8.8	9 <sup>o</sup>	9.1	9.2	9.3	9.4	9.5
Corrected .	6 <sup>o</sup>	6.8	7.4	8 <sup>o</sup>	8.4	8.7	9 <sup>o</sup>	9.3	9.5	9.7	9.9	10.1	10.4
No. of Stars .	2	0	0	3	16	15	16	37	4	19	25	35	92
Observed $\Delta y$ .	-15	...	...	+10	+4	+5	+6	+7	+2	+22	+10	+10	+8
Calculated $\Delta y$ .	-11	...	...	-2	-1	+1	+2	+3	+4	+5	+6	+7	+8
O-C .	-4	...	...	+12	+5	+4	+4	+4	-2	+17	+4	+3	0



Again, using the same formula, the chief characteristic is a constant  $O-C$  of  $+5 = +0''.15$ , but the observations are too few to give a trustworthy result.

We see that, as already remarked, the changes in  $\Delta y$  are very much smaller; though they seem to be measurable.

*Probable Error of a Single Measure of  $\Delta x$ .*

(The unit is  $.0001 = 0''.03$ , as before.)

Cambridge. Mag.	Corrected.	Period.						
		I.	II.	III.	IV.	II.-I.	III.-I.	IV.-I.
6.0	6.0	26	23	12	...	-3	-14	...
6.8	6.8	28	23	13	...	-5	-15	...
7.4	7.4	28	24	22	...	-4	-6	...
8.0	8.0	27	25	21	20	-2	-6	-7
8.3	8.4	23	22	18	21	-1	-5	-2
8.6	8.7	24	22	24	22	-2	0	-2
8.8	9.0	23	24	28	21	+1	+5	-2
9.0	9.3	25	23	27	32	-2	+2	+7
9.1	9.5	24	25	28	15	+1	+4	-9
9.2	9.7	24	26	35	36	+2	+11	+12
9.3	9.9	26	28	36	43	+2	+10	+17
9.4	10.1	27	34	34	49	+7	+7	+22
9.5	10.4	34	40	41	54	+6	+7	+20
Mean . . . . .		25	26	26	31			

Assuming that the mean values of  $\Delta x$ , as tabulated above, were applicable to the group of magnitudes from which they were deduced, the sums of squares of the differences from the mean value were formed, divided by the number of observations and multiplied by 0.6745 to get the probable error of a result. These are tabulated above for the four periods.

The differences II.-I., III.-I., and IV.-I. have been formed with the object of testing the influence of proper motions. The intervals in years between the Cambridge observations and the Oxford measures may be taken roughly as

I.	II.	III.	IV.
23	16	10	4?

Hence, if any considerable part of the residuals is due to proper motion, we may expect the average residual for period I. to be the largest, and for period IV. the smallest. The differences should, in fact, all be negative. This is found to be the case for the brighter stars; but for the fainter stars the differences are all positive. This can scarcely correspond to anything connected with stellar movement; it means, apparently, that the observations of the faint stars became rougher as time went on. The case of the fourth group is distinctly curious, seeing that it contains many observations over all seven wires, whereas the earlier groups are often restricted to three.



# CAMBRIDGE MAGNITUDE EQUATION AND ITS VARIATIONS.

Probably the unknown admixture of two observers is responsible. We may treat the  $y$  observations in the same way :—

## *Probable Errors of a Single Measure of $\Delta y$ .*

(Unit .0001, as before.)

Cambridge Mag.	Corrected.	I.	II.	III.	IV.	II.-I.	III.-I.	IV.-I.
6.0	6.0	20	22	21	...	+2	+1	...
6.8	6.8	24	19	16	...	-5	-8	...
7.4	7.4	24	19	18	...	-5	-6	...
8.0	8.0	23	22	16	24	-1	-7	+1
8.3	8.4	18	17	14	15	-1	-4	-3
8.6	8.7	17	16	17	21	-1	0	+4
8.8	9.0	17	16	16	14	-1	-1	-3
9.0	9.3	16	18	15	18	+2	-1	+2
9.1	9.5	15	16	15	6	+1	0	-9
9.2	9.7	15	16	16	20	+1	+1	+5
9.3	9.9	17	18	18	26	+1	+1	+9
9.4	10.1	21	18	18	28	-3	-3	+7
9.5	10.4	20	20	20	25	0	0	+5
Mean . . . . .		19	18	17	20			

Here we find group IV. again excessive; the influence of the admixture of two observers seems to be confirmed. Beyond this, the influence of twenty years' proper motions, except in the case of the brighter stars, seems to be negligible compared with the errors of observing.

The  $y$  residuals are, however, comparatively free from a progressive increase in roughness; and if we may assume that the observing error remained actually constant, we can estimate the effect  $\epsilon$  of proper motions (adopting the century as the unit of time) from the equations

$$(0.07 \epsilon)^2 = I.^2 - II.^2 \qquad (0.13 \epsilon)^2 = I.^2 - III.^2$$

The resulting values of  $\epsilon$  are

Cambridge Mag.	I. and II.	I. and III.	I. and III. Corrected to Mag. 7.0.
6.8	210	140	130 = 3.9
7.4	210	120	140 = 4.2
8.0	100	130	200 = 6.0
8.4	80	90	170 = 5.1

In this process, which is of the roughest kind, the values of  $\epsilon$  deduced from the seven years interval between periods I. and II. are only shown by way of illustration. From the thirteen years interval between I. and III. we may venture to set down the quantity  $\epsilon$  for a 7th magnitude star, correcting for magnitude as a simple effect of



distance at the rate of 0.20 in the log (distance) or log (proper motion) per magnitude. The mean value of  $\epsilon$  comes out 4".8. Now the treatment of stars of any given magnitude as a whole is rather out of date: it has been realised that they must be divided into spectral types. But for the present purpose we may recur to earlier figures. In 1887, L. Struve gave (on p. 8 of his paper on the "Constant of Precession": *Mem. Acad. Imp. des Sci. St. Petersburg*, vii. serie, tome xxxv. No. 3) 6".8 as the observed centennial motion in arc of a 7th magnitude star. In *A.J.*, No. 196, p. 29, Boss found 2".4 for the parallactic motion for a 9th magnitude star; or, using the factor 1.8, we may say 4".3 for its average proper motion. In *A.J.*, No. 614, p. 113, he finds 5".66 for the average P.M. of a 5.2 magnitude star. Thus for a star of magnitude 7.0 we may take about 5", which is sensibly less than Struve's value.

The quantity we have deduced above is the average mean square in one co-ordinate. To make it comparable with Struve and Boss we must divide it by 0.85 (the ratio of  $r$  to  $n$  in the theory of least squares) and multiply by  $\sqrt{2}$ , to get the whole motion from one co-ordinate: net result, multiply by 1.66; and  $4".8 \times 1.66 = 8".0$ , which is larger than either Boss's or Struve's value, but is perhaps as close to them as we could reasonably expect from the rough nature of the process. It must be remembered that we have chosen only those values which give a positive result: the inclusion of others would clearly reduce the mean.

---

We may now tabulate the best available corrections to the Cambridge meridian observations, or, rather, to the standard co-ordinates deduced from them. As foreshadowed on p. 10 preceding, we shall adopt 6.0 as the standard magnitude to which others are to be reduced. This means that, if the following corrections are applied, the mean value of C will be increased by about 50 units, and of F diminished by about 15 units, C and F being the constants tabulated at the head of each plate: for the mean magnitude of the stars on a plate is about 9.0.



# CAMBRIDGE MAGNITUDE EQUATION AND ITS VARIATIONS.

*Tables of Corrections for Magnitude Equation, applicable to the Standard Co-ordinates deduced from Cambridge Meridian Places to reduce them to Magnitude 6.0. The Unit is 0.0001 in réseau intervals, or 0".03.*

Cambridge Magnitude.	Correction to $\xi$ or $\xi'$ .				Cambridge Magnitude.	Correction to $\eta$ or $\eta'$ .			
	1872-78.	1879-85.	1886-92.	1893-End.		1872-78.	1879-85.	1886-92.	1893-End.
6.0	0	0	0	0	6.0	0	0	0	0
6.1	-1	-1	-1	0	6.1	0	+1	+1	+1
6.2	-1	-1	-2	0	6.2	0	+1	+1	+2
6.3	-2	-2	-4	0	6.3	0	+1	+1	+3
6.4	-2	-3	-5	0	6.4	0	+2	+2	+4
6.5	-3	-4	-7	0	6.5	0	+2	+2	+5
6.6	-3	-5	-9	0	6.6	0	+2	+2	+6
6.7	-4	-6	-10	0	6.7	0	+3	+3	+7
6.8	-4	-7	-12	0	6.8	0	+3	+3	+8
6.9	-5	-8	-14	0	6.9	0	+3	+3	+8
7.0	-6	-9	-15	0	7.0	+1	+4	+4	+9
7.1	-7	-10	-17	0	7.1	+1	+4	+4	+9
7.2	-8	-11	-18	0	7.2	+2	+5	+5	+10
7.3	-8	-12	-20	0	7.3	+2	+5	+5	+10
7.4	-9	-13	-22	0	7.4	+3	+6	+6	+11
7.5	-10	-14	-24	0	7.5	+3	+6	+6	+11
7.6	-11	-16	-26	0	7.6	+4	+7	+7	+12
7.7	-12	-17	-27	0	7.7	+4	+7	+7	+12
7.8	-13	-19	-29	0	7.8	+5	+8	+8	+13
7.9	-15	-20	-31	0	7.9	+5	+8	+8	+13
8.0	-16	-21	-33	0	8.0	+6	+9	+9	+14
8.1	-18	-23	-36	0	8.1	+6	+9	+9	+14
8.2	-20	-25	-39	0	8.2	+7	+10	+10	+15
8.3	-22	-27	-42	0	8.3	+7	+10	+10	+15
8.4	-24	-29	-45	0	8.4	+8	+11	+11	+16
8.5	-25	-31	-47	0	8.5	+8	+11	+11	+16
8.6	-27	-33	-50	+1	8.6	+9	+12	+12	+17
8.7	-30	-36	-53	+2	8.7	+10	+13	+13	+18
8.8	-33	-40	-56	+3	8.8	+10	+13	+13	+18
8.9	-36	-45	-60	+4	8.9	+11	+14	+14	+19
9.0	-40	-50	-64	+5	9.0	+11	+14	+14	+19
9.1	-42	-56	-70	+10	9.1	+12	+15	+15	+20
9.2	-50	-63	-82	+15	9.2	+13	+16	+16	+21
9.3	-55	-75	-88	+20	9.3	+14	+17	+17	+22
9.4	-62	-88	-90	+25	9.4	+15	+18	+18	+23
9.5	-62	-103	-90	+30	9.5	+16	+19	+19	+24

*Note.*—For the faintest stars the actual means of the observations have been preferred to the formula in adopting a correction.































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